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DANISH FOLK SCHOOLS FOR GIRLS

ABBY L. MARLATT

A SHORT visit summer before last introduced me to the Danish school system with its free primary schools, its private but partly state supported secondary schools, and its free university. In these, scholarships make it possible for a brilliant Danish student to go through the entire sequence of schooling and be graduated from the university without cost to himself. This is not unlike our own system. But they have in addition the so-called "folk high school" in which the teaching of the farm youth is all by the "spoken word" and character development is a growth of the same personal influence that one finds in the best home life of its people, the living in a family group.

The credit for the inspiration of this type of school is always given to Grundtvig, born over 150 years ago. He believed in education for *all* of the Danish, not education for special classes. The compulsory school system with its control by discipline he fought in sermons, lectures, poems, and in his vivid history stories. His ideal was to "write for the whole of the Danish people, high and low, rich and poor. By his poetry he would sing higher life into them. He had come to regard poetry not as an art but as life-giving power in every human soul and a mighty influence in promoting the common life of an awakened people." It was nearly fifty years before his ideal was put into concrete form in what is called the Danish folk high school. In the island of Funen in 1849 Christen Kold established such a school under the most primitive conditions. The thatched-roof, frame building was crowded to the last degree; the food was limited in variety; but the intellectual life of perfectly free discussion was of the highest and most spiritual. Lectures, debates, Bible and history stories without the exaction of studying books or committing formulas to memory brought into concrete form Grundtvig's belief

in the power of "the living word." These schools have sprung up all over Denmark. There are now sixty. All of them are privately owned, but many of them receive state or municipal aid. There is usually a large dwelling house in which the students live with the educator, his wife, and other teachers. Here under a variety of living conditions the country youth, 18 years and over, are initiated into the life of their people, their country, and humanity at large.

During the long winter months when agricultural work is at its lowest, the farm boys of Denmark may spend their time at these schools at small expense, discussing the lectures given by the owner and his assistants. The history of Denmark, economic and social problems, foreign languages, as well as the literature of Denmark, are the subjects. In some places the lecture work includes talks on natural sciences. Today there are also special schools where those who have studied at the folk schools may go for technical training in agriculture.

During the summer months after the young men have gone back to their work on the farm, a limited group of young women come to the folk high schools. They receive practically the same type of lectures as the young men, but they may in addition be given some training in household problems. They are in school for the three-months period of May, June, and July.

The one school of this type that I visited is at Helleröd. It is in a large, beautiful building with central portion and two wings. There are very attractive lecture rooms, sitting room and library, bedrooms, huge dining room, and an almost institutional kitchen. About fifteen young women were staying over during the month of August to get additional training in housewifery.

There are special schools for girls which were established much later than the folk high schools and which are in a way the outgrowth of the latter. Many of the students are those who have had three months' training in the folk school and who come for from six months to one year of training for the profession of homemaking. These schools are of three types: the housewife's school, the house management school including pedagogical training for those who wish to teach, and the house assistant's school.

The housewife's school in Copenhagen is especially for brides, for those who, having finished their formal education, are not yet out in society, or for those who are going on to teach housewifery in the elementary schools. Training for this teaching varies according to the subject matter the instructors are to teach.

Some of these schools have been in existence since 1906. All of them are privately owned and all are subsidized by yearly contributions from the state or the municipality or both.

In Copenhagen there is the house assistant's school which is owned by Marie Christensen, who herself began earning her living when she was not quite fifteen and served nine years as a houseworker. It offers training for girls who go into service as cooks, waitresses, laundresses, or nursery maids. All students live in the school in attractive quarters that are as well furnished and comfortable as our own Barnard Hall at the University of Wisconsin. The practical experience of the girls is gained through doing the entire work of food preparation, food service, making of clothing, laundry work, and, under the direction of a trained nurse, helping in the care of twenty-five homeless babies who live in the school. (These babies may be adopted if the foster parents can pass the standards set up by Marie Christensen, and she told me that that is not easy.) For girls who wish to go into restaurant work a small restaurant is conducted where the waiting list of paying guests is a long one. The school's four-story building in the heart of Copenhagen represents the life work of its founder, who has secured very able teachers and in addition to the building has through her own efforts provided an endowment fund of over $100,000. Some of her teachers have gone for additional schooling to England, and one of the students who was assigned to me as interpreter had held a scholarship in the Bryn Mawr summer school for industrial workers.

The house management school in Copenhagen occupies a large building near the business center of the city. This school was started by Fru Mailand in 1901 and is now under the direction of Agnes Elgstrom. Here are taught all the technical phases of housekeeping: food, its preparation and use; clothing, its preparation and hygiene; laundry work; household budgeting; and along with them, courses in the fundamental sciences, as chemistry and bacteriology. For those who are preparing to teach there is a special seminary for psychology and theory of pedagogy. This is a private school in which the students may live during their period of schooling. The tuition fee is fairly high for Denmark. The work is thorough and practical. Some of the graduates go on for special courses in the university. Some of the instructors have their doctor's degrees in philosophy or medicine. Others are graduates of the school and carry the practical teaching courses.

Another school which offers general household management and teacher-training courses is the House Management Seminary near Sorö.

It is owned by Fru Magdelene Lauridsen, president and originator of the Danish Association of Housewives, and is one of the oldest of the private schools for girls and women. It is a boarding school situated on a small holding and is a fine type of folk high school for farm and town girls. The main building is called Ankerhus, and in this are some of the technical laboratories as well as the private rooms for students. Nearby is the original house of the holding which is now used for the beginning courses and contains the big lecture hall and the food laboratories. In a separate building is the laundry, and back of the laundry the poultry house and the kitchen garden where the students learn poultry raising and horticulture. Many of the girls come from farm homes and expect either to go back or to enter employment where such knowledge will be essential. The kitchen garden is under the direction of a young woman trained in horticulture. From it come all of the vegetables and fruits used in the school, and even in August it was in excellent condition and showed intensive cultural methods of the latest type. On the property is also a small testing laboratory where foods and textiles are tested for the consumers' cooperatives under the direction of a chemist and his assistant.

The subjects taught to the girls in the six-months course are botany, bacteriology, and chemistry; psychology, history of education, and educational methods; economics of the household, cookery, gardening, clothing construction, and fine embroidery; and the special farm subjects already mentioned. The teacher-training course is a one-year course, and the practice teaching is largely in connection with supervised teaching of the students in the six-months course.

To reach the school at Sorö it was necessary to mortgage my future on an automobile. Starting out from Copenhagen in the early morning with a teacher from the Household Management Seminary and my special guide who was a former teacher there, we drove through the beautiful country, stopping for a few minutes at Roskilde to see the "Westminster Abbey of Denmark" where all the kings of Denmark are buried in the thirteenth-century Cathedral, then on to Sorö in the mid-western part of Sjelland. We were somewhat late for our appointment at Ankerhus, where we arrived at three o'clock. We were received with great rejoicing by the members of the faculty and immediately invited in to dinner. We had stopped for lunch en route, but I followed the lead of my guides and did what they did, which was to keep a discreet silence about our luncheon and eat happily a most delectable meal prepared and served by the students. If it is a sample of their ability, certainly the school is

doing excellent work. Later we were most graciously received by Mrs. Lauridsen in her own private residence, in what had been the original school building.

The work of the school begins at seven o'clock in the morning and except for a short period of rest in the afternoon continues through to nine o'clock at night. Besides all that the students have to do in the way of practical laboratory work, they have the complete care of the house so that in six months they get a vast range of technical training, and when a student goes out with her diploma she is prepared to be an assistant in her mother's home or in another's home or to manage her own home.

In one large farm holding where we spent an evening with a family studying their method of cost accounting and household management, one of the six-months students from the seminary was assisting the housewife and her daughter with the housekeeping and the laundry work during the heavy summer work. In 1931 she was paid 50 kronen, or $10 a month; she lived as one of the family and looked not much older than the twelve-year-old daughter. The farmhouse contained eleven rooms: on the first floor, two bedrooms, parlor, dining room, kitchen, and office; on the second floor, five bedrooms.

The training of the farmer and his wife had been in the folk high schools. Both were people of high intelligence, both spoke English perfectly, and both knew the cost of farming to the last krone. They knew how much of the daily food came from the farm and how much was purchased. Their accounts showed how much the farm had brought in and how much they had expended, but before they counted their profit or loss they subtracted from the total 2,500 kronen, or about $500, as salary for the man and his wife. On this basis, their loss in 1930 was 14 kronen; in 1931, 688 kronen. They had 24 cows, about 100 pigs, 40 old hens, and 300 young hens. The profit on the young hogs was $2 a head. All their selling was to the cooperatives, who took the material from the farm itself so that the selling presented no problem.

This farm family shows clearly what the folk high schools have done for the farm population of Denmark—given them a vision, a knowledge of languages other than their own, a thorough understanding of economics, a strong belief in cooperatives, and a mutual interest in the economic and social problems of farm living; and, I may add, a love of the beautiful, for the wide single glass windows in the parlor, office, and dining room faced a lovely garden plot with wide lawns, towering trees, and massed borders of foliage and flowers. As I rose to say goodbye I spoke of the beautiful view from the window, and the housewife said, "Yes, we planned our house so that I could always look into the garden."

THE OPPORTUNITIES AND RESPONSIBILITIES OF HOME ECONOMICS IN THE PRESENT SITUATION[1]

FRANCES L. SWAIN

THE topic allotted to me suggests an exhortation to carry on what we have all found it necessary to practice in the last two years, and though I shall endeavor not to do too much preaching, how can one avoid it entirely when one's subject deals with responsibility and opportunity? They are but a step less compelling than "duty and privilege"—which is probably what the program chairman meant to say to us.

To begin with responsibilities, a safe first is that of putting our knowledge at the service of the community in which we are living. You may say that we do this in any normal year as part of our "oath of Hypocrates," but just as the physician is impelled to work untiringly through epidemic and catastrophe, so these difficult months have brought us responsibilities greater even than were ours during the World War. When families are faced with the necessity of living on diminished or vanished incomes, the question of "adequate meals," "calorie requirement," "vitamin content" are no longer academic. It is not enough to have our girls recite glibly on these topics. When clothing materials are scarce or not existent and the ability to buy is greatly decreased, our responsibility to the families represented in our clothing classes is decidedly enlarged. When the tension in family adjustment is increased by the strain of decreased income, disheartened workers, and doing without what the members of the family have grown accustomed to, even if we have no definite courses in family relations we have an opportunity if not a responsibility to help by the understanding which the facts of cost of food, shelter, and clothing give us.

One of our Chicago teachers has been telling me of her experiences this year with her class in home management, especially during the units on family and personal finances. As the girls have totalled the sums which it takes to carry them, they have one after another confided their surprise at what their share in the family expense mounts up to and their corre-

[1] Presented before the department of elementary and secondary schools, American Home Economics Association, Milwaukee, June 27, 1933.

sponding gratitude to their parents. This has been true with girls at varying economic levels. The teacher, as she has seen the meager allowance and restricted opportunities of some of her pupils, has been impressed anew with the responsibility of the school for providing wholesome recreation, and she has more cheerfully borne the burden of extra curricular activities which you all know grows very heavy in a large high school. You may say that the home economics teacher should have no more responsibility than others on the faculty in such a situation, but when the nature of the subject taught and the rather more informal contact brings the opportunity, the responsibility follows.

What I have said concerns our direct contacts with our pupils and with their families. There will never be any way of knowing how much has been accomplished in the thousands of classrooms over the country. This is the type of service which home economists have been furnishing and will continue to give. It is important also that they use their specialized knowledge and skill in the organized welfare efforts of the community, whether in cooperation with the commissioners of the poor, the family welfare society, the Red Cross, the emergency relief groups. Whatever the agency charged with the administration of relief, there should be a tie-up between it and the home economists which will enable us to give the help we are prepared to render. It is not alone in the final operation that we should be called upon to help—we should have a chance at prevention. There is too much of a tendency to leave fruits and vegetables on our doorsteps with a "Here it is, you can it" and with no attention as to whether or not using it is economical of energy or whether the product can be effectively disposed of. In many communities this difficulty has been forestalled by advice as to amounts and kinds to be planted, for example, the garden budgets put out by several state services in agriculture and home economics. Similarly, the Red Cross and other organizations may ask us to make up garments from patterns or materials which our judgment tells us are ill adapted to the purpose. Is it not our responsibility to make our efforts effective by seeing to it that our heads as well as our hands are called into service?

Another responsibility which I feel rests definitely upon us is to do our part in an education which shall prevent a recurrence of such periods of uncontrolled spending as we saw in 1929–30 and the following period of leanness, out of which we hope the road is turning. We have been stressing the need for consumer education. When we interpret this as education for wise buying, including knowledge of values, discrimination as to quality, and control of purchasing procedures such as seasonal buying

and quantity buying we are dealing with extremely important factors to which we must give continued and increasing attention. This is not the whole of the story, however. Education which is confined to the transaction of the individual purchase or to the activities within the four walls of the home, will not equip a family to deal with situations which are part of a nation-wide or world-wide situation complex in the extreme. We have taught economy and yet lost our savings in bank failures; we have practiced thrift and lost the homes which were purchased at the price of self denial. Family economics cannot be administered wholly within the four walls of the home any more than can family sanitation.

Another phase of consumer education which should receive our attention is the labor conditions under which commodities are produced. Much ground has been lost during the past months, and it is highly important for us to do our part in safeguarding the workers in factories and homes. It is our responsibility to inform ourselves on these economic questions in order that we may pass the information on to our students. The JOURNAL OF HOME ECONOMICS is publishing papers that will help us. Economists can give us more help on consumption.

This phase of our responsibility is particularly important if and when we come into a period of greater prosperity. It is impossible to tell whether the reaction from the strain of enforced economy will be a return to care-free extravagance or a too great caution which will in turn defeat its end. The wisdom with which we meet this responsibility will have a decided effect upon our future.

Aside from this responsibility for adapting our work to immediate needs, we have a very definite responsibility to our own forward-looking program. Our pupils must not be exploited; standards must not be lowered permanently; where we leave the path for a necessary detour, we must come back to a point beyond that at which we left the road.

One more responsibility on which it is impossible to lay too much stress is the obligation to stand firmly in the ranks of our professions for the sake of home economics and for education in general.

You will think that I have said little of the other side of the picture, our opportunities. The feudal phrase "noblesse oblige" still holds, and it is our opportunities that have brought these responsibilities with them. I am sorriest for those who have not been given the opportunities implied in what I have been saying. It is for our local, state, and national groups to pave the way for the individual teachers who are left in their own little corners as "special" teachers. How successfully this has been done is shown in the reports and news-letters from state associations.

THE OVERHEAD COST OF MEALS IN SMALL HOMES

GRETA GRAY, ZEPHA RECHS, AND GERTRUDE SERVER

THE overhead cost of meals was estimated for three types of small homes in Los Angeles and nearby cities in the spring of 1931. The first comprised small furnished apartments for one or two persons; the second, houses occupied by families of moderate income; and the third, a house similar to the one defined by the Bureau of Labor Statistics in the article "The Minimum Quantity Budget Necessary to Maintain a Worker's Family of Five in Health and Decency" in *The Monthly Labor Review* for June 1920. The calculations of overhead cost took account only of the value of the rent and furnishings attributable to the area used for the preparation and service of meals. The cost of heating and cleaning this area was not included in the estimates, nor was consideration given to the cost of labor, fuel, and refrigeration required for the meals themselves.

The study of small apartments was based on comparisons of so-called single furnished apartments and bachelor apartments. In California the term single apartment designates one comprising a room furnished as a living room with some kind of disappearing bed, a bathroom, a dressing room, a kitchen, and, as a rule, a dining nook. A bachelor apartment is like a single apartment without the kitchen and dining nook. Thus, the difference between the rent of comparable apartments of the two types may be considered to represent the cost of the area and furnishings devoted to meal service. In this study comparisons were made only between apartments with equally desirable locations in the same building and with similar grades of furnishing. In the eleven apartment houses from which prices were obtained, the monthly rent of single apartments ranged from $22.50 to $57.50, with an average of $34.09. The rents for bachelor apartments ranged from $18 to $45 with an average of $27.32. This makes the average amount chargeable for rent of kitchen and dining nook $6.77 or about 20 per cent of the total rent, or 22 cents a day. If two persons occupied the apartment, the cost of meal service area would be 11 cents a person a day.

In the study of houses occupied by families of moderate means twelve were included which ranged from 5 to 7 rooms in size, six of them owned

by their occupants and six rented. The number of persons in the family ranged from 2 to 5 with an average of 3.4. Each family included two adults, except in cases 5 and 10, which included three. Three families had no children, 3 had one, 4 had 2, and one had 3, making an average of 1.3 children per family.

Overhead cost of meals as determined in 12 homes of families of moderate income in Los Angeles or nearby cities

FORM OF TENANCY AND CASE NUMBERS	NUMBER OF PERSONS IN FAMILY	MONTHLY INCOME	PURCHASE COST OR MONTHLY RENT OF HOUSE	AREA				PURCHASE COST OF FURNISHINGS				TOTAL OVERHEAD COST OF MEALS	
				Whole house	Part used for meal service			For whole house	For area used for meal service				
					Total	Proportion of whole house	Monthly cost		Total	Proportion of whole house	Monthly cost	Monthly	Per person per day
		dollars	*dollars*	*sq. ft.*	*sq. ft.*	*per cent*	*dollars*	*dollars*	*dollars*	*per cent*	*dollars*	*dollars*	*dollars*
Owners													
1	3	350	6,500	936	329	35	24.65	2,544	1,091	43	11.82	36.47	0.41
2	4	200	8,000	1,274	336	26	22.53	1,662	684	44	7.41	29.94	.25
3	2	300	8,500	1,093	298	27	24.86	1,895	967	51	10.48	35.34	.59
4	3	160	6,500	1,272	364	29	20.41	1,026	529	51	5.73	26.24	.29
5	4	300	6,000	1,120	300	27	17.55	2,384	792	33	8.58	26.13	.22
6	4	450	20,000	1,913	496	26	56.33	2,887	1,156	40	12.52	68.85	.57
Average, 1–6.....	3.3	293		1,268		28	27.72	2,066		44			.39
Renters													
7	2	350	45	737	240	33	14.85	1,356	496	37	5.37	20.22	.34
8	2	160	35	728	288	40	14.00	570	200	35	2.17	16.17	.27
9	5	240	38	717	275	38	14.44	1,163	389	33	4.21	18.65	.12
10	4	250	45	1,369	333	24	10.80	1,478	469	32	5.08	15.88	.13
11	4	250	45	1,280	340	27	12.15	1,813	418	23	4.53	16.68	.14
12	4	250	45	1,448	316	21	9.45	2,692	1,164	43	12.61	22.06	.18
Average, 7–12.....	3.5	250		1,046		30	12.61	1,512		34			.20
Grand average....	3.4	272		1,157		29	20.17	1,789		39			.30

The cost of the food service area was arrived at by measuring the area of all rooms and halls and calculating the proportion of this used for meal service. The purchase cost of furnishings was also determined and the proportionate cost of those furnishings used for meal service as compared with the total cost of furnishings. The data are shown in the accompanying table.

In determining the proportion of total area used for meal service, it was assumed that the dining room, kitchen, and half of the back porch should be included in that area. The last item was somewhat arbitrarily based on the consideration that this porch served both for general household purposes and as an entry to the kitchen and a place for receiving and storing food supplies.

As will be seen in the table, the meal service area comprised from 21 to 40 per cent of the total house area and averaged 29 per cent. In four houses whose total area was less than 1,000 square feet the meal service area averaged 39 per cent of the total, while in the larger houses it ranged from 21 to 29 per cent with an average of 26 per cent.

The rental cost of the food service area was considered to bear the same relation to the total rent that this area bears to the total area; this was on the assumption that the cost of building and equipping the various areas averages the same per square foot, despite the fact that differences in finish, plumbing, and fixtures might make one or the other area more or less costly in any given house. The rental value of owned homes was assumed to be 13 per cent of the investment, a figure in accord with the conservative standard given by B. R. Andrews in "The Economics of the Household." These calculations showed a monthly cost of food service areas ranging from $9.45 to $56.33 with an average of $20.17.

The cost of furnishings in the food service area was determined in the same general way as rental values. A complete inventory was made of the furnishings in each house and purchase costs were ascertained from bills or receipts, from household accounts (kept by 7 of the 12 families), from the owner's memory or, in cases of doubt, by pricing similar articles at the time of the study. The furnishings used in the food service area were then separately listed, and their purchase cost compared with that of the total furnishings. As will be seen in the table, this represented on the average a higher proportion of the total cost than was the case with rentals, 39 per cent as against 29 per cent. This difference can be at least partly explained by the fact that the meal service area includes a relatively large number of such expensive items of equipment as mechanical refrigerators, electric ranges, high-grade cooking sets, solid silver, choice table dishes and linens. It was assumed that the average annual cost of renewal and repair of furnishings would equal 7 per cent of the purchase cost, a figure arrived at by the Bureau of Labor Statistics in its study of families on the health and decency level of living. To this was added 6 per cent to cover interest on investment, insurance, and taxes, giving 13 per cent of the original cost as the annual cost of furnishings.

By the use of this factor the monthly cost of furnishings for the meal service area was found to range from $2.17 to $12.61.

The total monthly overhead cost of meals was determined by adding the monthly cost of furnishings to the monthly cost of rental for the food service area. The resulting values ranged from $15.88 to $68.85. Calculated on the basis of a person per day they ranged from 12 to 59 cents, with an average of 30 cents. The cooperating families were much surprised to learn how high this item of overhead was.

In passing, it may be interesting to compare the cost of housing among these families with the figures which Andrews gives as advisable. For renters he suggests 20 per cent of the income. Among the six families in this study the proportions ranged from 13 to 22 per cent, with an average of 17 per cent. For owners he suggests that not more than twice the annual income should be invested in a home. The six home-owning families in this study had from less than one and one-half to over three and one-half times the income invested in their homes with the average about two and seven-tenths times their average income.

Commonly accepted standards for the cost of furnishings allow from two-fifths to two-thirds of the annual income; in nine of the families of this study the purchase cost of all furnishings corresponded to this standard; in two it fell below, and in one it almost equalled the annual income. These three exceptional cases were all families who rented their homes; the figures for the other renters were nearer two-fifths than two-thirds of the annual income. In four of the six owner families, on the other hand, the cost of furnishings was nearer two-thirds than two-fifths of the annual income.

In comparing the various items for owners and renters in this study it appears that the average figures for owners are higher than for renters in respect to all the items on which the cost of meal service is based. The average overhead cost per person per day among owners is 39 cents, or about twice as high as the 20 cents found for renters—a difference much greater than that between the size of their incomes or the value of their houses.

In considering the overhead cost of meals for a family living in a house and on a plane of living comparable to those indicated by the Bureau of Labor Statistics in its minimum quantity budget, the work was done by finding current Los Angeles prices for a house and furnishings similar to those described by the Bureau and making calculations from these.

The size of the family assumed by the Bureau was five and the minimum housing standard was a house of five rooms and bath with a total

floor area of 660 square feet. The furnishings listed suggest that it would include living room, dining room, and kitchen and two bedrooms. The Bureau set the minimum size of the dining room as 9 x 12 feet. No minimum size was given for the kitchen in a house with a separate dining room, but since the necessary equipment could be conveniently fitted into 96 square feet of space, this was taken as minimum, giving a minimum meal service area of 204 square feet or 37 per cent of the total area.

The cost of building a small five room and bath stucco house of good average construction in Southern California was $3.50 per square foot at the time this study was made, or $2,310 for a house of 660 square feet. A reasonable figure for lot would be $690, making the total value for house and lot $3,000. At the assumed annual rental of 13 per cent of the value, the monthly rent of such a house would be $32.50, and that of its food service area $10.07.

To determine the cost of furnishings those listed in the minimum quantity budget, slightly modified, were priced at four Los Angeles shops. Sewing machine, laundry equipment, and child's go cart were omitted, a few substitutions were made to accord with changes in fashion, and a gas range was added. The refrigerator chosen was an ice box. While the quality of articles offered in different shops probably varied somewhat, those finally selected and priced were simple, substantial articles as much alike as possible. One of the four stores from which prices were obtained was a furniture store which carried all kinds of household furnishings, and the other three were department stores, one ranking as first class, one as second class, and the third featuring time payments. The prices from the four stores did not vary greatly. When average figures were used for all items the cost of all furnishings came to $1,041; the cost of those for the food service amounted to $445 or 43 per cent of the total. If the lowest price for each article had been used both figures for costs would of course have been somewhat lower. Using the same method of calculation as in the study of families on moderate income level, the annual cost of furnishings for the meal service area was found to be $57.85 or $4.84 per month. This gives $14.91 as the total monthly overhead cost for meal service, and, with a family of five persons, 10 cents as the overhead cost of meals per person per day.

It is interesting to compare the results obtained with the three types of dwelling. In the single apartments, the overhead cost of meal service per person per day was 22 cents when one person occupied the apartment as against 30 cents for the moderate-income homes with an average family of 3.4 and 10 cents for the minimum-budget home with a family of 5; when

two persons shared the single apartment, the cost was almost as low as for the minimum-budget home. The average number of persons per room was 0.64 in the families observed and 1 in the minimum-budget estimates. This along with the higher cost of house or rent and of furnishings accounts for the difference.

In general this study indicates that the overhead cost per person of meal service increases as the size of the family decreases and the standard of living rises, until in small families on moderate incomes it may equal or exceed the cost of food materials. This is in accord with the generally accepted statement that on higher income levels the cost of food materials represents a constantly decreasing part of the total cost of meals.

SCHOOL LUNCHES PROVE THEIR VALUE

In the last ten or fifteen years the desirability of providing some hot food for the children who eat their noon meal at school has been more and more emphasized, and parent-teacher associations, extension workers, and many other welfare agencies have aided in making it possible. Often the initiative has come from the home economics teacher, and in still more cases the task of working out the plan has been assigned to her. One of her most frequent problems, especially in the smaller schools, is how to arrange to serve attractive lunches of suitable nutritive value at a price that even the poorer children can pay. If, as often happens, the home economics classes are expected to help in the preparation, there is the further problem of giving the work a genuine educational value and making sure that the girls are not exploited for the benefit of the lunch room. Now that ready money is short in so many families, the possibility of allowing some pupils to barter food supplies for meals must also be considered, along with the equally difficult one of giving certain undernourished children free food without letting them or their mates feel that it is done as charity. How these problems have been met in two schools is told in the first papers that follow. The third is significant not only for its account of a pioneer project but also as showing the resemblances and differences of a quarter century.

CORRELATING CLASS ACTIVITIES AND COMMUNITY NEEDS WITH THE SCHOOL LUNCH

LUELLA A. WILLIAMS

"The adaptation of the school to the community"—how often we school teachers hear this slogan! Nowhere can it be put into practice more effectively and with more far-reaching results than in the home economics departments. In this day of cutting down school expenses home economics departments must prove their worth in order to remain a part of the school, even though this is a time when their services seem to many well nigh indispensable.

For some time the home economics department in the high school at Greenview, Illinois, has been trying to make the work of the beginning foods class seem more vital to the girls by connecting it with the school's hot lunch project. Recently it has also been able to supply some extra food for a few children from families known to be unable to provide an adequate diet, and to do this without any stigma of charity.

The hot lunch project is intended to furnish some warm food to supplement the sandwiches and fruit which some of the pupils bring from home. Fortunately the home economics department has a building to itself, so the food preparations can go on without tantalizing the rest of the school with the odors. The chief problem is to provide attractive, appetizing dishes of suitable kind, while keeping the price as low as possible and making it possible for some of the youngsters to earn their luncheons, as well as for the beginning foods class to get the right kind of experience in choosing, preparing, and serving food.

The project begins about the first of November, when the class starts its unit on luncheons, and lasts for four months. If her class work is to be of practical value to a girl, at least part of the cooking she does in school should be in family quantities, and we find that it is satisfactory to have each two girls who work as partners prepare family-size recipes of the various foods served for lunch—soups, vegetables, combination dishes, salads, and desserts. After the routine of the luncheons is established, the girls take turns, two each week, in helping prepare the materials, in setting the tables in the dining room, and in putting out the dishes on which the food will be served. This work is usually done during the last twenty minutes of the class period while the rest of the girls are completing the day's work. In this way the class is not exploited —in fact, the girls feel that this part of their course is really worth while.

The meals are served in a modified cafeteria style. Places are set at the dining room tables with silver, glass of water, and paper napkin. Each pupil carries his dish or dishes of food from the kitchen serving table just outside the dining room. When he has completed his meal he returns the dishes to the kitchen. We begin serving at 11.50 a.m., and by 12.50 the dining room and kitchen are cleaned and in order for the next day.

The school board pays for the fuel used. Six girls wash dishes to pay for their lunches, and six more bring one and one-half gallons of milk once each week to pay for theirs. In this way, and with very careful buying and preparation, we manage to "come out even" financially.

In the autumn before we begin serving the hot lunches, a form letter is sent to the parents of the children who come in from the country, explaining the general plan. We say that it is desirable to have the children pay for their week's lunches before 9 o'clock Monday morning in order that we may know how many to provide for and so purchase and prepare the food as economically as possible. If a "transient" student wishes lunch on one day only, he pays for it before 9 o'clock. The menus for the week are made out and posted in advance on the bulletin board.

Since our entire "clientele" numbers only from twenty-five to thirty, it seemed impossible at first to offer a choice of foods each day, but recently we have been able to add a dish or two to the menu and also to increase the size of the servings without increasing the price, thus making the lunch a "complete meal" for most of the youngsters.

The boys and girls seem to appreciate the well-chosen foods they find prepared for them here. They prefer vegetable, riced to nato, and bean soups to milk soups, so we give them milk in some such form as chocolate milk, cocoa, or hot custard. We vary the menus from week to week so that bean soup will not appear every Friday, or scalloped corn every Monday; but the following are typical:

Monday—scalloped corn, cocoa, crackers
Tuesday—vegetable soup, crackers, fruit jello
Wednesday—baked hash, toast, chocolate milk
Thursday—green beans, crackers, tapioca cream
Friday—bean soup, cornbread

Monday—baked potatoes, toast, chocolate milk
Tuesday—riced tomato soup, crackers, prune whip
Wednesday—corn chowder, crackers, brown Betty
Thursday—chili, crackers, pumpkin pie
Friday—baked beans, toast, cocoa

The chili is my own concoction; I use pinto beans, hamburger, and tomatoes, but no suet, and I go easy with the seasonings because I think the rich, highly seasoned restaurant type of chili is not the thing for a child's stomach. The zest with which they attack this dish proves they like it.

We have found that by careful management we can serve such lunches for 10 cents a day, or 40 cents a week if paid for on Monday morning. This really seems an accomplishment when one considers that from one-third to one-half of the meals are paid for in work or raw materials.

The project is carried on only during the four cold winter months, despite the fact that everyone concerned would like to see it continue for the entire year. But those four months are the ones when a hot lunch is needed most; and as there are many other things which we wish the girls to get, we try not to let them become one-sided in this luncheon project.

The girls in the beginning food class are not the only ones actively interested in the project. One year the school home economics club donated canned fruit, and in return we placed a dime for each jar in the home economics treasury. As there were between fifty and a hundred

jars, this proved a good way of adding to the department's treasury as well as improving the school lunches and giving the girls a sense of helping in school affairs.

Last year there was another socially valuable development in connection with the school lunches. Early in the autumn patrons and friends of the school gave their surplus vegetables for the advanced home economics class to can for use in the lunches during the winter. It was known that several families in our small community would not be able to provide adequate diets for their children during the winter, and with these donations to supplement the regular supplies, some of the latter could be used to give these ten or a dozen children mid-morning and mid-afternoon lunches of crackers with soup, milk, or cocoa. This was done as part of the school lunch project in a way that did not in the least suggest charity. When the school lunch project was over, the Tuberculosis Association provided the youngsters with milk for a month.

If, as Weet says, "the ultimate objective of all education is the participation of individuals in maintaining and advancing social welfare," such a school lunch project affords a remarkable opportunity for attaining this objective, especially in these years of economic stress.

A SCHOOL COOPERATIVE CAFETERIA

BLANCHE M. STOVER

To Cherry Valley Central School seven buses bring each school day 160 children from surrounding farms and communities. Some of the pupils leave home as early as eight o'clock in the morning and do not return until five o'clock in the evening, or even later if they have to walk far from the bus route to their homes. All who come from a distance bring lunches from home to eat in school during the noon hour.

The homemaking department opened the school cafeteria on a cooperative basis on December 1, 1932, intending to serve one hot food each noon to supplement the cold lunch brought from home. A charge of four cents a portion was made to cover the cost of the food, and meal tickets were issued to children who brought in farm produce which could be used in the cafeteria. They were allowed the same price for their produce as that charged by local merchants. In this way, children who could not afford to pay out money for a hot lunch but whose families had a surplus of milk, eggs, potatoes or other vegetables, could bring them in place of money.

The first three weeks were spent in finding out approximately the kind

and amount of produce which would be brought in, how much it would cost to run the cafeteria on this plan, and the kind of hot foods best liked by the children. The number of children served soon rose from twenty-three to seventy-eight. When school closed for Christmas vacation all bills were paid; there was a fair supply of food on hand; and 94 cents in the treasury.

When school reopened in January, the Board of Education hired Mrs. Davis, a woman with two children in school, to do the cooking in the cafeteria because, with increased patronage, the homemaking department could no longer afford to spend the necessary time on such routine work. The homemaking teacher still had charge of the planning, ordering, food exchange and accounting, with the help of a student who acted as cashier during the noon hours and kept a record of the number served, the number who paid, the charges (allowed to run two weeks), and the food credit slips. These food credit slips or meal tickets were unsatisfactory because they became easily lost, mislaid, or forgotten; so the cashier kept a list of pupils with meal tickets credited after each name and this list was checked by her each day.

Weekly news-letters were sent during January to the parents telling them about the menus planned for the following week, the food needed, and the exchange value of it in meal tickets. This gave the mothers an opportunity to plan supplementary foods for each day's hot lunch, and the fathers a chance to send in any surplus farm produce. The food was brought to the cafeteria before school opened each morning, valued, and credit given to the children bringing it. The milk supply was irregular, but this difficulty was overcome by certain children agreeing to bring one, two, or three quarts of milk on definite days. In the same way, as soon as any vegetable was needed, a call was issued for more.

As the plan developed, more children brought in produce and the cost per dish was lowered from four to three cents and then to the present charge of two cents. This increased the patronage to an average of 100 to 160 pupils per day according to the weather, some town children bringing their lunches on stormy days. Of these 160 children, about 60 have food credit, 70 pay cash, and 15 are fed by a parent-teacher association contribution. The increased patronage necessitated hiring two girls to help Mrs. Davis during the lunch-hour rush; each girl receives 50 cents a week in cash and her lunch each noon.

Reduced cost and increased patronage led to more variety in the daily menus. A typical list for a week would include, in addition to cocoa every day:

Monday: meat loaf, tapioca pudding
Tuesday: macaroni and cheese, applesauce
Wednesday: creamed eggs, stewed prunes
Thursday: scalloped potatoes, applesauce
Friday: baked beans, rice pudding

This experiment indicates that while the four-cent charge at the beginning kept many children from getting a hot lunch, the two-cent charge, plus the cooperative food-exchange plan, has made a hot lunch possible for virtually every child. It has also eliminated the discussions caused by the practice of giving free lunches and any feeling of charity that might arise. The farmers have received a better price for their produce than the retailer could give them. The children have received suitable, nourishing food, and the cafeteria has become an asset rather than a liability to the school.

THE FIRST PENNY LUNCH

ALBERTINA BECHMANN

The complete history of the school lunch movement in this country should include an account of the penny lunch room opened in the Jackson School of Cincinnati, Ohio, on April 13, 1908, during the superintendency of Dr. Frank B. Dyer and under the auspices of one of the primary teachers, Miss Ella A. Walsh.

Miss Walsh and her associates had become convinced that many of the pupils came to school each morning without breakfast and that many others were compelled to do without noon lunch each day because their mothers, as wage earners, were obliged to be away from home all day. They also believed that a child's wits were sharpened only after the needs of his body had been adequately met. Therefore, with the help and support of those higher in authority, they proceeded with the venture and from the beginning fed some children at the opening of the school day and larger numbers at the morning recess and at noon.

"Let no hungry child escape" soon became their slogan, and many families in distress turned to the school for help. If a father called at the school at seven-thirty in the morning to say that he could not feed his children that day, food was immediately prepared and dispatched to the needy group, and the children came to school on time. A full report of the case was simultaneously sent to the city charities, and not infrequently through school lunch channels new jobs were secured for unemployed parents.

The organization of the penny lunch scheme was quite simple. The Board of Education fitted a room in the basement for a kitchen and dining room and provided the services of a cook. All other service, including the supervision of the lunch room while meals were being served, was the voluntary contribution of teachers in the school. Miss Walsh herself planned the menus and did the buying.

In the beginning, the problem of how to buy supplies was a real one, for there were no funds upon which to draw. Credit seemed the only answer, so Miss Walsh, accompanied by the author, called at the wholesale houses and explained the purpose of the venture as well as the financial predicament. Thirty-day credit was thus secured and all bills were thereafter paid by check on the first of each month from lunch room receipts. Pilgrimages were made each Saturday to the wholesale houses to learn what foods would be received during the coming week and to make sure that only the best was sent to the school. Saturday, too, the daily cash records were entered in the books; the weekly accumulation of pennies, nickels, and dimes was sorted and carried to the bank in a heavy satchel.

The expenses for the first month were fourteen dollars and the receipts seventeen. In December, 1910, the account stood: "Expenses, $157.50; Receipts, $157.73; Profits, $0.23." Losses were prevented through the generosity of the teachers who bought the left-over perishable food.

All new ideas receive a fair share of criticism, and the penny lunch proved no exception. The health officers of the city over-zealously inspected the lunch room in early days. Before long, however, they not only gave it the stamp of approval but in addition the reputation of having "the finest soup in the city."

Well-grounded objections were raised by the pretzel man at the gate and the small stores in the neighborhood. Unanimously they declared that the lunch was interfering with their trade. Naturally so, for the school offered a variety of the best quality of nutritious food, prepared carefully and served daintily in penny portions.

The public in general felt sure that the school lunch would weaken the sense of responsibility which parents should feel for the feeding of their children. The reverse frequently happened. Mothers often came to ask what foods to select and how to prepare and serve them so as to satisfy the complaints of their children that the food at home was not so good as that at school. One youngster complained that his lunch at home was bread and meat and that the bread was not nice like that at school but was "just in a big chunk."

Rumor of such criticism possibly may have spread to Dr. Dyer, who had gone to Boston as superintendent of schools, for in 1912 he wrote: "Through wise planning the movement, so far from weakening the sense of responsibility of the home, has aroused the interest of the homes in better hygienic conditions and has fostered more intelligent selection and preparation of nourishing foods."

Once having proved its worth, the penny lunch idea spread rapidly among the Cincinnati schools and schools throughout the country. As Dr. J. M. Withrow, at that time an influential board member, put it, "The penny lunch has spread faster than the measles. There seems no immunity for it. Everybody is taking it."

Last spring when Cincinnati celebrated the twenty-fifth anniversary of its pioneering in school lunch schemes, Dr. Edward D. Roberts, superintendent of the city schools, fittingly said:

> The original intention of rendering a needed service to hungry children has never been lost sight of, though there has been added to it the even more general justification of school lunchrooms upon the ground of educational service they may render to children. The penny has been expanded into five, ten or fifteen cents as the cost of the meal, though many single items are still purchasable for the penny whose use gave title to the undertaking at its start.

AN INTEGRATED VIEW OF THE HOMEMAKER'S RESPONSIBILITIES AND EDUCATION THEREFOR

J. L. HYPES

EDUCATION for homemaking has had a varied and interesting development in this country. At first it was devoted almost entirely to foods, shelter, and clothing—the creature comforts of domestic life—and was projected largely on a rule-of-thumb basis. But like most other things in American life, education for homemaking is experiencing important changes. Without making a lengthy journey into the history of education, it is the purpose of this article to note briefly some of these changes and more especially to set forth a broad integrated picture of the homemaker's responsibilities in the complex social order of the year 1933 and the education that is required to meet these responsibilities happily and efficiently.

Changes in homemaking education. One of the more important changes in this field of education is in the attitudes of the agencies offering it. When we review the "domestic science" offerings of the early farmers' institutes, farm papers, and the extension work of the land-grant colleges, we are tempted to smile, for it is evident that these agencies then had a very restricted conception of the nature and the functions of the family, and hence of education for homemaking. One is impressed by the aspirational and promotional aspects of their early efforts and by the evident lack of basic factual material upon which to develop their programs. But we should not smile too broadly, for notwithstanding the progress that we think we have made, we must confess a feeling of uncertainty as to the meaning of certain current changes in family life and as to the value of certain efforts toward education in this field.

However, we are evidently on the way to a better understanding of the family and education for homemaking. Research in the related sciences and within the field of homemaking itself is correcting our thinking through bringing forth needed factual material and through the stimulation of critical thought. Thus today many agencies are conducting investigations in family standards of living, in family organization and disorganization, in housing, in domestic relations, in parental education, and many other problems and projects having to do with modern family

life. The very fact that we are willing to subject the family to scientific investigation shows vast progress in our conceptions of the family and of education for homemaking, especially since the family has been hedged about by so many taboos and traditions.

Another important change in homemaking education is that its content is rapidly assuming a basic social core. Today along with courses in cooking, sewing, and other skills, curricula in vocational education for homemaking, particularly in the colleges, frequently contain courses in household management, child development, vocational guidance, sociology of the family, children's literature, and other subjects with social implications.

There is a change in attitudes toward methods of instruction. More progressive teachers of homemaking do not claim to teach cooking and sewing *per se*, but rather to teach people to make proper decisions and adjustments with respect to food, shelter, clothing, domestic relations, and other problems in the actual life situations now included in the larger, socialized field of education for homemaking. In other words, the personality of the student and her educational needs are now considered paramount and the pedagogical activities of the class merely as a means to an end.

Yet another important change in this field of education, according to the view of many thinkers, is that of elevating the rôle of an adequate parenthood to one approaching a learned profession. This change of view is, no doubt, largely the result of changes in the conception of the functions of the family as an institution and of investigations in juvenile delinquency, domestic discord, and other domestic problems. Thus a new interest in education for parenthood has arisen calling for a number of professional courses in various kinds of higher educational institutions. One teachers college announces sixteen non-credit extension courses in parental education.

Analysis of the homemaker's responsibilities and education therefor. In order to set forth rather concretely what we conceive as an integrated view of the average homemaker's responsibilities in the present social order, and an integrated view of the education required for meeting these responsibilities, an analysis in topical outline form is given which represents, in greatly shortened form, the joint effort made by the author and students in his advanced course in the sociology of the family at Connecticut Agricultural College in 1932.[1] Admittedly, this analysis is

[1] The cooperating students were: Dorothy Bailey, Vera Barnum, Elsie Brainerd, Evelyn Broadhurst, Anne Claffey, Edna Dudley, Kathryn Kennedy, Ethel Lynton, Sylvia Lippman,

only partial, but it suggests a philosophy of education in homemaking which may challenge the readers' thinking.

As will be seen, the analysis is divided into two major divisions which represent two periods of the homemaker's vocational life span: A, the period prior to marriage, and B, the period subsequent to marriage. The main subdivisions under each period include (indicated by Roman numerals) the age levels, or periods of domestic responsibility, for which education of a given kind is needed. Under each of these comes: (a) a partial list of problematical life situations arising in each educational level; (b) a partial list of specific things to be learned in each educational level; and (c) general remarks on learning situations in homemaking education and what each requires.

ANALYSIS OF THE VOCATIONAL EDUCATION OF THE HOMEMAKER

A. Prior to Marriage

I. From infancy up to six years of age
  a. Larger problematical life situations (partial list)
    1. Attainment of correct concepts of the physical and the social environments
    2. Attainment of correct habits of
      (a) speech
      (b) health
      (c) social conduct and attitudes
      (d) work, play, and the routine of daily life
      (e) optimism, self-reliance, honesty, and other personality traits
    3. Enjoyment of the cultural heritage of the race
  b. Things to be learned (partial list)
    1. One lives in a world of reality, of cause and effect
    2. The correct names of objects of the physical and social environments and something of the nature of these environments
    3. One is but a small part of the world in which one lives
    4. Adequate vocabulary, correct pronunciation and sentence structure, etiquette
    5. Correct toilet habits; food habits; care of the eyes and person in general; correct attitudes
    6. Obedience to parents and others in authority; respect for others' rights; cooperation
    7. To dress one's self (in part); to entertain one's self; to play fairly; to do small household chores
    8. To face reality; to bear responsibility; to exercise self-control; to be ethical in social relationships

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Gertrude McCormick, Martha Miller, Helen Reed, Ruth Reynolds, Mary Shannessey, Margaret Smith, Ruth Viets, and Gertrude Waterman.

9. Something of the achievement of the race in story, art, discovery, invention, social process, mores

c. General remarks

This is the crucial period for the attainment of the basic habits, attitudes, and knowledges requisite for a good personality, ethical character, good health, and good relationships in the home and the community. Formalized education, in the usual significance of the term, has but small place in the training of children of this age. Right living, good example, and a fortunate socio-physical environment are the best means of education of this age group. The parents, directly and indirectly, are almost wholly responsible for the nurture and education of children of this age group. An adequate parenthood for this age group calls for the equivalent of a kindergarten or nursery school training, a favorable attitude toward child life and child care, and the financial ability to maintain reasonable standards of living.

II. Childhood: 6 to 12 years of age

a. Larger problematical life situations (partial list)

1. As under I, but on a higher learning level
2. Special problems
   (a) overcoming excessive shyness, egotism, selfishness, or other bad personality traits
   (b) learning to maintain sustained effort in play, study, or other work
   (c) selection of playmates
   (d) further attainment of socialized ideas
   (e) obtaining adequate information about reproduction and other natural processes
   (f) development of special talents, hobbies
   (g) acquirement of adequate religious and ethical training and behavior

b. Things to be learned (partial list)

1. As under I but on higher levels of learning and behavior
2. Special things
   (a) the virtues and the qualities constituting a pleasing personality are largely the resultants of good physical and mental health, a good regimen of living, good social relationships in the home and the outside world, and the establishment of habits of industry, frugality, ethical behavior, willingness to face reality, etc. This learning is to be obtained chiefly by indirection.
   (b) the selection of playmates and chums on the basis of personal worth, without snobbishness or other anti-social behavior
   (c) formation of adequate attitudes toward parenthood and family membership
   (d) adequate knowledge and attitudes about the reproduction of the race and the personal and social problems involved therein
   (e) development of special talents and hobbies; the problem is often that of getting the consent of the parents, getting special teachers and other facilities

(f) providing adequate religious education in the churches, public schools, and elsewhere

(g) placing religious education on the doing and living level

c. General remarks

There is no sharp break between the age-level periods in the educational development of individuals. As indicated under II a and b, the large, fundamental educational needs and processes begun in the period of infancy continue throughout the period of childhood with certain shifting in emphasis owing to the previous educational growth of the child. However, a number of somewhat specialized problems emerge for this age group which require special provisions by the home and other agencies dealing with the education and the protection of children. As with the infant group, a fortunate environment is of pivotal importance in the education of children of this age level, and living the good life is the best schooling possible. However, more formalized work may logically be expected of this age group than of the infants. The parents and the home are yet the most important educational agencies, though the school is a close second. An adequate parenthood for this age group requires a working knowledge of child psychology, children's literature, games, clubs, and a wider knowledge of the children's universe.

III. Adolescence: 12 to 18 years of age

a. Larger problematical life situations (partial list)

1. As under II, but on a higher level of learning
2. Special problems
   (a) social and economic adjustment to the adult's world
   (b) tentative vocational selection and, in some cases, an approach to formal vocational education
   (c) problems of sex knowledge and sex hygiene
   (d) social relationships with the opposite sex, choice of friends
   (e) an intellectualization of many things previously learned on the doing level
   (f) deciding on such matters as hobbies, smoking, drinking, forms of recreation, regimen of living, etc.

b. Things to be learned (partial list)

1. As under II, but on a higher level of learning and behavior and with certain shifts of emphasis
2. Special things
   (a) how to attain happily economic and social independence from parents and the paternal home; this involves earning, budgeting, and assuming responsibility for one's self in general (psychological weaning)
   (b) getting vocational guidance and testing, leading up to a wise selection of a vocation and proper education therefor
   (c) planning, in the large, one's life, making a place for vocational selection, formal vocational education, hobbies, cultural education, marriage and parenthood, saving and investment, life insurance, the purchase of a home, travel, an optimistic outlook upon life, religion, old age, etc.

(d) the selection of one's chums and associates of both sexes and maintaining ethical relationships with them

c. General remarks

The education of this age level of individuals continues through the usual high school period. Group life outside the paternal home has grown to important proportions, and a number of social, cultural, and ethical problems become of major importance. The youths are also nearing the threshold of physical adulthood, so that the selections of vocations becomes a matter of important concern, psychological weaning is to be effected, and steps taken toward economic independence. During this age one's physical appearance becomes a matter of special concern, and one wishes to have those social attributes that will win prestige and favorable recognition by the group. The home continues to be an important institution in the education and the protection of the youths, but other agencies such as the high school, the gang, clique, club, business agencies, and the outside world in general are important agencies in molding the life and behavior of adolescents. The parents need to grow in educational attainment, including especially a knowledge of the psychology of adolescence and vocational guidance.

IV. Celibate young adulthood: 18 to 25 or 30 years of age

a. Larger problematical life situations (partial list)

1. As under III, but with further mastery of certain problems
2. Special problems
   (a) those of the many women finding temporary employment prior to marriage; of other women entering upon a vocation or taking extended training for a profession
   (b) securing a suitable mate
   (c) educational and economic preparation for marriage
   (d) working out of a suitable regimen of life for the interim between leaving the paternal roof and the establishment of one's own home
   (e) joining suitable social and professional clubs
   (f) provision for religious and cultural education

b. Things to be learned (partial list)

1. As under III, with certain modifications and changes of emphasis
2. Special things
   (a) how to make definite vocational selection
   (b) the education required for the conduct of a temporary or a permanent vocation
   (c) how to adopt a suitable system of budgeting, including insurance, investments, self-support
   (d) factors involved in securing a suitable mate
   (e) working out with fiancé suitable plans for the future
   (f) how to attain competency in housekeeping and the making of a home, including domestic science, child care, social entertainment in the home, etc.
   (g) how to secure, prior to marriage, adequate knowledge about reproduction, gynecology, and related subjects

c. General remarks

For most young women, this is a transition period frought with decisions of great moment. Most of them will have to decide whether they will reside with their parents until a suitable mate is found, or on the other hand whether they will find employment away from home. They also must decide whether they will marry and the sort of mate they will require; and if they marry they must also decide whether homemaking alone will occupy their married life or whether they will combine with it other employment. There must be an economic and a socio-professional educational preparation for homemaking, including for the average young woman the attainment of competency in the usual household activities. If the previous education in this direction has been adequate, this special preparation need not be so difficult. The advice and the assistance of parents at this point is valuable; so is the work of special study groups, special schools in homemaking, and the family physician.

(To be continued)

SIGNS OF THE TIMES

HOME ACCIDENTS AND HOME MANAGEMENT. The prevalence of home accidents is a matter of common knowledge; in fact, the National Safety Council ranks them second only to motor accidents as causes of fatalities. Heretofore most of the meager statistical information available about them has dealt with city homes. The study here briefly described was planned as a first step toward a home safety program in farm, village, and small-town homes in Illinois. It took into account the causes of accidents in such homes, their cost in time and money, and possibilities of preventing them.

Information was collected on home accident report cards prepared at the University of Illinois and distributed by home advisers in several counties to women in whose homes accidents had occurred between January 1, 1928, and January 1, 1932. The cards which the women filled in were then returned to the University for tabulation and interpretation. A home accident was defined as "one that happens in the home or that portion of the surrounding yard which is definitely used for living purposes to persons regularly residing there, to visiting friends, or to persons regularly employed as domestic servants."

Reports were received from 143 women in 23 counties, of whom 137 lived on farms, in villages, or small towns and six in cities. These returns were classified according to causes and according to the age of the injured persons, and are summarized in the accompanying table.

One of the most striking features of this table is the large number of very young persons injured. This becomes even more striking when one recalls that these lower age groups represented a relatively small proportion of all the people living in the homes reporting. Of the three fatal accidents among the 143, all happened to little girls under five years of age.

Falls constituted by far the most frequent single cause among these home accidents, being responsible for 42 per cent of all reported. Next came cuts, scratches, and nails, with about 15 per cent; and burns, scalds, and explosions, with about 14 per cent. For the elderly persons falls caused 4 out of the 5 accidents reported. For children under five years old falls caused 30 per cent and so did burns, scalds, and explosions. For the intermediate groups falls also ranked first, with cuts, scratches, and nails second.

The part of the house or grounds in which the accident took place was also noted in the records. Sixty-nine or 48 per cent occurred indoors and 74 or 52 per cent outdoors. The exact location of indoor accidents was not always stated, but the kitchen appeared by far the most common, with stairs and halls second, though with only half as frequent mention. For little children the kitchen also seemed most dangerous, 5 out of 18 accidents there coming in the group under five years old. Of the outdoor locations specified, porches were most frequently mentioned.

Causes of 143 home accidents classified according to the age of the injured persons

CAUSE	AGE OF INJURED PERSON				
	Under 5 years	5 to 14 years	15 to 65 years	Over 65 years	All ages
Falls	10	18	32	4	64
Blows from falling or moving objects	3	1	6	0	10
Striking against objects	0	2	0	0	2
Handling, lifting, and carrying objects	0	0	4	0	4
Burns, scalds, explosions	10	1	9	0	20
Asphyxiation, suffocation, drowning, electrocution	2	0	0	0	2
Firearms	0	1	1	0	2
Poisons	0	0	0	0	0
Cuts, scratches, nails	2	5	14	0	21
Other causes, including household equipment	6	4	7	1	18
All causes	33	32	73	5	143

The total money cost of accidents was not reported by all the women. Judging by those who did furnish such data, about 73 per cent of the total outlay went to doctors, 26 per cent to hospitals, and 1 per cent for medicines. The most expensive accident, a fall by a woman hurrying downstairs, cost $500. Next came a neglected scratch with barbed wire from which blood poisoning developed and which made a drain of $282.50 on the family's pocketbook.

These figures do not include the value of time lost as a result of the home accidents. The 64 persons disabled by falls thus lost a total of 1,314 days or over $3\frac{1}{2}$ years. The longest single period of disability was 5 months lost by a homemaker who fell from a makeshift ladder. As for the pain suffered by the victim of the accident and the inconvenience to him and his family, there is no way of estimating these.

The women were requested to suggest ways of preventing accidents such as they reported. These suggestions grouped themselves under

three main heads: 75 under personal precautions, 60 under better home management practices, and 11 under keeping the house and its various parts in good repair.

Personal precautions included such items as "less hurry," "being more careful or thoughtful," "wearing proper shoes with low heels."

The suggestions for better home management practices included parental prevention of children's accidents by more careful supervision of their play, provision of safe playrooms, and not allowing children to use or care for lawn mowers, poisons, matches, firearms, and inflammable liquids. They also dealt with the proper use and care of such equipment as washers and wringers; care in leaving certain types of equipment covered; prompt repair of defective light cords, gas stoves, or ovens; or pulley cords in windows; using only safe ladders; discarding small, loose rugs from slippery floors; and the orderly placement of equipment and supplies away from the line of traffic on the stairs, through doorways, and in the yard.

Suggestions for the improvement of poor house construction included destruction of dangerous old porches and woodsheds; adding handrails to porches, stairways, and bathtubs; prompt repair of defective stairs and steps; better lighting of dark stairways.

Study of the records makes it evident that such personal factors as hurry, carelessness, thoughtlessness, neglect, and fatigue are contributory causes of many home accidents. It also shows that poor home management practices found in some homes also contribute to such accidents and that the two sets of causes are often linked. Hence, much of the responsibility for the prevention of home accidents involves the adults in the home, especially the homemaker. Considering the high cost of such accidents in money, time, suffering, and inconvenience, it is clear that one important way to conserve the family's resources of time, money, and morale is to do away with conditions which lead to a large number of accidents in the home—GLADYS J. WARD.

HOME ECONOMICS AND THE OCCUPATIONS OF HIGH SCHOOL GRADUATES. The Barnesville High School has collected information as to what the girls who have been graduated by it during the ten years from 1922 to 1932 are now doing, and the findings seem of considerable interest to home economics.

The 136 girls for whom the information is available include 52 who are married and making homes of their own; 20 who are attending college;

19 who are helping at home; 17 teaching; 7 in commercial work; 7 in nursing; 5 clerking; 5 doing odd jobs, including those of cook, maid, and waitress; and 4 for whom no occupation was reported. Thus 52 per cent of these young women (the 38 per cent who are married and the 14 per cent who are helping at home) are actually carrying on homemaking and could be applying the knowledge and skill gained in home economics courses, if they had taken them. The clerks, nurses, and those doing odd jobs make another 13 per cent or a total of 65 per cent who could be making use of home economics training in their present occupations. The remaining 35 per cent (college students, commercial workers, teachers, and the few for whom no occupation was reported) undoubtedly spend part of their time at home, whether in a single room, an apartment, or a large house, and should be prepared to make the most of that home, whatever its type. In other words, this survey shows a real need for home economics training in the high school program.

If home economics were interpreted as including only courses in cooking and sewing, its practical usefulness might not be so general; but where, as in Barnesville, it includes child care and training, home furnishing and decorating, nutrition, keeping household budgets and accounts, how to buy clothes, textiles, first aid, care of the sick, preparation and serving of meals, remodeling problems, art craft work, food marketing, and how to become a hospitable hostess, it should be of practical value to a woman in any of the occupations ordinarily followed by high school graduates.

When one remembers that there are 24,000,000 women in the United States today who are engaged in homemaking and that the American mother spends the larger percentage of the family income, one is yet more forced to consider the training the present generation of girls should have in order to become more efficient buyers. Home economics can make a real difference in the lives of its young people; it can render real service in the development of the American home; and best of all, it can be practically applied in almost any walk of life.—BEATRICE ANDERSON.

A HIGH SCHOOL PROJECT IN BUYING TEXTILES. In selecting a project designed to make high school girls conscious of their buying problems, we chose "The Selection of Materials for Spring Dresses." The project was first developed by discussing with the girls the qualities they desired, such as durability, fastness of color to washing and sun, cost in relation to durability, and design; and by considering the adequacy of such present methods of determining qualities as inspec-

tion, tests which can be applied in the store, advertised brands, labels giving thread count and tensile strength.

The class then visited the one local store which carries dress materials. Here we found cotton materials at only two prices, ten and fifteen cents a yard. On the fifteen-cent materials the girls found tags stating that they were fast to washing, perspiration, and sunlight. The thread count was also stated in some cases. On some of the new bolts information concerning fastness of color was stated on the outside bands. The girls thought this a peculiar method since the bands were destroyed as soon as the bolts were opened and hence would not be seen by the customer.

The girls asked the salesman about the meaning of the numbers which indicated thread count. He did not know what they meant but was very interested in having them explained to him. All he knew about the materials was that some were guaranteed fast color and that some were not. The girls asked for how many washings the materials were guaranteed, but the salesman didn't know. They also asked him who should be held responsible in case the guaranteed materials faded. He said, "If the wholesaler doesn't make them good, I can't." The salesman seemed interested in having the girls explain how information on the label would help them to buy. He said the next time he went to the city to buy he would ask for materials labeled with such information.

We bought samples of several of the materials to take back to school to test. The girls found that the materials costing ten cents a yard shrunk more than those costing fifteen cents. They also found that they had fewer threads to the inch, but that they were as fast in color after three washings and to the sun after the same length of exposure as the more expensive materials. The girls found a material with a brand unfamiliar to them as fast in color as a widely known brand recommended by the salesman as being "extra good value."

Tests made on sheeting and other cotton fabrics were explained to the class, and the work of the American Home Economics Association was discussed. The girls were asked what they could do to improve the situation. Someone remarked that they had made the salesman conscious of their needs about dress goods and perhaps could do the same for other materials. They also said they could explain to their families what to demand and what the terms such as tensile strength and thread count mean. When asked why buyers do not demand such information now, several remarked that "people are too dumb," "they don't know what they want," "they don't know that qualities can be indicated on labels."

The girls through this project really became conscious of their problems

in buying textiles and as a result they feel our present methods of purchasing are inadequate.—ELIZABETH WINKLEHAKE.

HOME ECONOMICS FOR BOYS. At a recent educational meeting, an outstanding county superintendent of schools admitted that he prepared the Sunday morning breakfast for his family every week and that he did this because he enjoyed doing it. That his spirit is typical of the attitude of many men as well as boys is evidenced in the public schools of Pennsylvania today where seventy are offering home economics instruction to boys. The enrollment in these classes includes many of the junior and senior boys who are mentally alert and ambitious and who are keenly interested in homemaking responsibilities and activities. They frankly ask what their place in the family is and want help in learning how to be competent members of the family group.

Although to some this may seem a new development in home economics education, it really is not. For many years there has been evidence of interest on the part of boys in certain phases of home life. Eighteen years ago a group of boys in a city high school in Pennsylvania requested the home economics teacher to use her influence in making certain home economics courses available to them. The principal was skeptical but finally agreed to one course with the understanding that it be designated as a course in "Camp Cooking." The teacher sensed the need of maintaining the enthusiasm and interest of the boys by so planning the course of study that the expressed needs of the boys would be met in spite of the limitations indicated in the name of the course. With this in mind, each boy was asked to state in writing, on an unsigned slip of paper, his reasons for wishing to enter the class. Some of the reasons were:

To keep well by eating the right kind of food
To know how to get breakfast if I have to
To find out whether "two people can live as cheaply as one"
To know how to prepare an attractive tray for my invalid mother
To learn correct table manners and etiquette
To learn to be a gracious host
To find out how much should be spent for food in a family of five
To learn how to make chocolate layer cake

One of the evidences of the value of this course was the fact that the principal continued it as an elective course for boys.—ANNA G. GREEN.

4-H CLUBS FACE FORWARD. In this time of reduced incomes, 4-H Club boys and girls in Illinois, as all over the country, are meeting with enthusiasm the opportunity for helping themselves and their families through 4-H Club work by making the best use of resources at hand. 4-H Club work teaches by doing. The plan in both agricultural and home economics clubs is based upon home situations. Club boys and girls learn by working at tasks that are waiting to be done in every home and on every farm.

The aim of club work is to meet individual needs, to aid in meeting needs of the club member's family, and indirectly to deal with community needs. The problems faced by the club member are those faced every day by people of rural communities. This year over 24,000 Illinois boys and girls are enrolled with these problems in mind.

In home economics work 4-H Club girls choose clothing, foods, or room-improvement projects. For every girl the problem presented by a project is different. Each girl must analyze her own problem. From information made available through the local leaders, county advisers, and extension specialists, the girl chooses the method that offers the best solution for her own particular case.

During the last few years, analysis of the amount of money that a farm family may spend has become more important. Through keeping a clothing account the 4-H Club girl knows how much she has spent and compares that amount with the total family expenditure for clothing. When she finds that her expenditures have been too high she makes more of her own clothing. By careful planning she learns to look well on her share of the family's clothing fund. Said one clothing club member:

> Our demonstration on stain removal from fabrics helped not only our club and ourselves, but also some of the members of our community. Since giving it we have had many questions on methods of removing stains.

In foods clubs the 4-H girl's own family is the basis of her problem. She plans, prepares, and serves meals that measure up to the requirements for adequate nourishment as she has learned them in 4-H Club work. She plans and follows a canning budget based upon the needs of the family. She bakes raised bread, quick breads, cookies, and cakes.

Each girl's home furnishes the problem for the work in her room-improvement project. Usually she directs her attention to making her own room more attractive and livable. Subject matter on color and proportion is studied and applied in construction of household linens,

hand-made rugs, and curtains, as well as in the arrangement and selection of furniture. One of the girls says,

> I enjoy my room because I have created and cared for it with my own hands. The quiet gray of the woodwork and furniture is pleasant with the soft blues and grays on the walls. They harmonize nicely with the gay colors of the cretonnes at the windows.

In agricultural clubs, the boys study problems in stock breeding and crop production and immediately apply on the home farm the information gained. Last year the volume of work done in the boys' clubs in Illinois represented a business whose total value was $546,272, and whose profit was $181,262—a creditable attainment in any business.

In every 4-H endeavor club members, by judging their own work and later the work of other club members, learn to recognize a good product. Girls and boys who are themselves successful in adopting recommended practices in agriculture or in homemaking demonstrate these practices to their clubs and communities. From one club came the report that

> Club work is not only teaching the girls themselves, but some of their mothers as well. One of the mothers in our club who has a family of six children is just learning to sew now with her two daughters enrolled in club work.

At tours and exhibits club members show and compare 4-H products. Through these comparisons, they set up standards for the products in which they are interested. By these standards club members measure their own work and plan for its improvement.

4-H work often helps to direct the life plans of members. Typical comments from the stories of the experiences of club girls are:

> The prizes I've won on my dress are the start of my "go-to-college" fund.

> At first I took up club work as a good way to spend my summer vacations, but now I know that club work has caused me to choose home economics as my life vocation.

> From my club experience I have learned how interesting the planning and preparing of meals can be.

> I'm doing most of the sewing for the family now.

Worthy achievements in agriculture and in homemaking strengthen the purpose and confidence of club members. These farm boys and girls are impressive for the courage with which they face the problems that today confront farm homes and communities.—CLEO FITZSIMMONS.

THE OIRISH OF IT. Oi see by th' paper that a colleen sez th' wimmin nowadays are too good t' be slavin' in th' kitchin an' darrnin' th' socks av th' min; but that they're aquil t' th' min, yis, an' betther, an' able t' be judges, an' prisidints, an' kings an' quanes, an' phwat not.

Och, ye swate little thafe av th' wurruld! Wait till ye mate wid an Oirishmon, an' he puts th' comedher an ye. Whin an Oirishmon from Roscommon fixes ye wid his deludherin' blue oye, an' wispers tindherly in yer little rosebud av an ear, "Acushla oge machree, manim asthee hu (Young pulse of my heart, my soul is within you)," thin, avourneen, ye won't know whither ye're sthandin' on yer fate or an yer head. Ye'll folly him t' th' inds av th' airth; ye'll mind his socks an' his owld phwat-yer-call-ems; ye'll foight wid anny wan thot wud prevint ye from takin' in washin' t' support him an' th' childhre; an' ye'll be in th' sivinth hivin av deloight whin he sez t' ye, "Ye owld sthrap, it's a taste av me shillelagh Oi'll be givin' ye."

Whist, hard fortune t' me for phwat Oi'm afther sayin'! Arrah, Oi don't mane t' say thot an Oirishmon cud be crule t' his woife. Th' saints forbid! An Oirishmon makes th' bist av husbands. All Oi mane is, if a woman loves a mon, ayther an Oirishmon or wan who has th' misfortune not t' be an Oirishmon, his will is her law. Her husband is her lord an' masther, an' at th' same toime her sarvint an' slave. Love makes her humble. She doesn't want t' be quane av th' wurruld, but only quane av his haarrt. Her kitchin is her palace, her throne th' bread boord, her husband an' childhre her subjects. A woman rules by sarvin' her household. She stoops t' conquer.—ROSCOMMON PAT.

EDITORIAL

REVISION OF THE FEDERAL FOOD AND DRUGS ACT. Every home economist is interested in food, nutrition, and health and also in ways of helping household consumers to get their money's worth. She therefore is doubly concerned in the passage of the proposed revision of the pure food and drug law of 1906. This concern was recognized at the Milwaukee meeting of the American Home Economics Association when support of the revision was made a leading item in the legislative program for 1933–1934 and affiliated state home economics associations were urged to include active work for it on their year's calendar.

As was said editorially in October, such support means several things: it means getting a clear and definite idea of the advantages which the revision will bring to the consumer and of the answers to be made to objections; it means doing what we can to educate our friends and neighbors to the value of the measure and the need for combating opposition to it; it means telling congressmen and senators that we favor it and why; and it means getting ready to give yet more active support, either individually or as organizations, when it comes up for congressional committee hearings and final action.

To show how the revision will help homemakers and consumers, one need only recall what Secretary Wallace outlined as its seven most significant provisions. These were given in more detail on page 600 of the August-September JOURNAL, but are briefly repeated here:

1. The prevention of false advertising
2. The inclusion of cosmetics
3. The establishment of tolerances for added poisons in food
4. Authority for the Secretary of Agriculture to promulgate after notice and hearings definitions and standards that will have the force and effect of law
5. Power to require manufacturers to procure, in certain cases, federal permits
6. The control of drug products on the basis of therapeutic claims which are contrary to the general agreement of medical opinion
7. Requirement of informative labels

Why these provisions are necessary for the protection of the public against injury or fraud is told in a series of popular, readable mimeographed releases prepared by the Food and Drug Administration of the

United States Department of Agriculture. Any home economist wishing to inform herself, her classes, her friends, or other groups in her community about the bill should write to the Food and Drug Administration for these, and perhaps also for the comparison of the revision with the present law. She would also do well to write to her senator or congressman for a copy of the bill itself (its official citation is S-1944 "Federal Food and Drugs Act"), and when she does so, tell him why she hopes he will vote for it in Congress.

The Food and Drug Administration has also prepared effective exhibits portraying the limitations of the present food and drug act and how some of the dangers and abuses would be corrected by the proposed law. One such exhibit has been sent to each of the field stations of the Administration. The location of these stations and the names of the chiefs are:

Eastern District: Baltimore, 218 Water Street, D. M. Walsh; Boston, Room 804, U. S. Appraisers Stores, 408 Atlantic Avenue, George H. Adams; Buffalo, Room 526, Federal Building, South Division and Ellicott Streets, F. L. Wollard; New York, Room 1200, U. S. Appraisers Stores, 201 Varick Street, Joseph Callaway, Jr.; Philadelphia, Room 405, U. S. Appraisers Stores, 134 South Second Street, C. S. Brinton; Savannah, U. S. Custom House, Bay and Bull Streets, J. J. McManus

Central District: Chicago, 1625 Transportation Building, Dearborn and Harrison Streets, H. D. Garrett; Cincinnati, Room 411, Government Building, Fifth, Main and Walnut Streets, S. A. Postle; Kansas City, Room 400, Post Office Building, W. H. Hartigan; Minneapolis, Room 310, Federal Office Building, Third Street and Marquette Avenue, C. W. Harrison; New Orleans, Room 225, U. S. Custom House, 423 Canal Street, E. C. Boudreaux; St. Louis, Room 204, Old Custom House, Third and Olive Streets, A. E. Lowe

Western District: Denver, Room 502, U. S. Custom House, J. E. Kimlel (acting); Los Angeles, 1236 Palmetto Street, A. W. Hansen; San Francisco, Room 33, U. S. Appraisers Stores, Sansome and Washington Streets, G. J. Morton; Seattle, 501 Federal Office Building, H. C. Moore (acting)

Talks before clubs, classes, and other groups may be arranged either by getting in touch with the chief of the nearest station or by writing to the Food and Drug Administration in Washington.

As was predicted in an October editorial, consumer groups are showing more and more interest in the measure as they are becoming better informed about it and the way it will work to furnish them protection. Unfortunately, the trade groups whose profitable activities will be curtailed if it becomes law are manifesting their objection and will continue

to do so as forcibly and effectively as they can. The friends of the measure must not allow themselves a sense of false security because public welfare is on their side; they must make public opinion express itself for the revision with sufficient strength and clearness to outweigh the organized attacks of vociferous and sometimes unscrupulous opponents.

Indications are that hearings on the bill will be held early in December by a subcommittee of the Senate Commerce Committee. The chairman of the subcommittee is Senator Copeland of New York. Other members are Hattie W. Caraway of Arkansas and Charles L. McNary of Oregon.

HOME ECONOMICS AND THE NATIONAL RECOVERY PROGRAM. Developments in the Washington program for national economic recovery are so varied and rapid that it is still difficult to say which acts are likely to have most direct effect on the interests of homes and homemakers or in which home economists can be of most service. As this is written three of the emergency administrations seem likely to come under such headings, namely those handling the Agricultural Adjustment Act, the National Industrial Recovery Act, and Federal Emergency Relief. In later issues it should be possible to give more details about their aims and methods; here we can only indicate very briefly and incompletely how their programs affect home economics.

AGRICULTURAL ADJUSTMENT ADMINISTRATION. The A. A. A., as it is familiarly called, has perhaps most clearly shown its concern for the welfare of the individual consumer as distinct from that of producers and distributors on one side and of labor on the other. An outward sign of this was the early appointment of a Consumers' Counsel, Dr. Frederick C. Howe, whose function seems to be a double one: to see that the consumers' interests are duly considered in all measures of the administration, and to enlist their sympathy and support. A point clearly made in the publicity of the Consumers' Counsel is that the program of the A. A. A. cannot be put into effect without the intelligent cooperation of the women of the country, the final users of the foods and textiles with whose national utilization it is charged. Establishing the proper relation between the prices of agricultural commodities and the prices paid to the farmers who raise them is an essential

feature of the agricultural recovery program, but one which the average citizen and homemaker cannot easily follow or understand. To make this simpler for them, the Consumers' Counsel is issuing a bi-weekly mimeographed bulletin called "The Consumers' Guide," prepared in cooperation with the Bureaus of Agricultural Economics, Home Economics, and Labor Statistics. It discusses in simple terms some of the significant consumer problems such as those of standards and grades and gives current retail prices of 16 representative food materials in 51 cities, together with information regarding prices received by farmers. The fact that copies of the first issue were sent with a special covering letter from Dr. Howe to "mayors, consumers councils, home economics groups, and others interested in or concerned with proper control of food prices," is typical of his desire to enlist the cooperation of home economists in the educational campaign through which the A. A. A. hopes to give the American public a better understanding of the rôle of agricultural products in both our national and our personal economy, including their wise utilization to promote individual health and satisfaction. Home economists interested in seeing the "Consumers' Guide" and other publications from the Consumers' Counsel will be placed on the mailing list if they address a request to him at the United States Department of Agriculture, Washington, D. C.

NATIONAL RECOVERY ADMINISTRATION. The little emblem on the cover of the JOURNAL shows that the American Home Economics Association subscribes to the program of the N. R. A. Its members are also especially interested in whatever is being or can be done under the N. R. A. to promote fair and socially wholesome dealing between all the groups concerned with industry and trade. They have been delighted at the progress made toward abolishing child labor, excessively long hours, and inadequate wages, and their Washington representatives stand ready to lend a hand whenever help is needed to continue this good work, as was the case of newsboys under the code for newspaper publishers. They were delighted with the establishment of a Consumers' Advisory Board in the N. R. A. If the Board has seemed slow in getting under way this is probably largely due to the fact that men used to thinking in terms of industry are naturally somewhat slow to understand the real rôle of the consumer in industrial and economic life, rather than to deliberate attempts to hinder the Council's activities.

Members of the Association's committee on standardization of con-

sumers' goods are watching the individual codes as these are announced and have several times appeared at hearings to request the inclusion of provisions to protect the quality or cost of goods to be produced under the codes. The most notable instance so far is that of the dry cleaners' code, for which Pauline Beery Mack's advice was solicited and sympathetically considered by representatives of the industry.

FEDERAL EMERGENCY RELIEF ADMINISTRATION. Home economists may also find themselves called in by this service, of which Harry L. Hopkins is the head. A Mississippi news note on page 829 tells that he has added to his staff as director of women's work Mrs. Ellen S. Woodward, well known in her own state for her effective work for social and educational movements and a warm friend of home economics. The appointment was made in recognition of the need for well-planned work relief projects for women in all of the states, and machinery is now being set up to give this problem intelligent consideration. It will be suggested that a competent woman on the staff of each state administration be assigned to take charge of such work. Already federal departments, bureaus, and national women's organizations having a particular interest in this phase of the relief program are cooperating to the fullest extent.

Another feature of the Administration's program that is of interest to home economists is the permission to use federal relief funds to pay teachers for otherwise closed schools, especially in rural districts. It is also to cooperate with the A. A. A. in using surplus food products for relief—a scheme in the local developments of which home economists may find themselves consulted as some were in similar distributions made under Red Cross and local relief auspices last year.

EDUCATION FOR HOMEMAKING AT THE DUBLIN MEETINGS. Education for homemaking played a prominent part in some sessions of the World Federation of Education Associations in Dublin, July 29 to August 4, especially those arranged by the section on home and school. Child development and parent education were also to the fore at the meetings of the section on the preschool child. The resolutions adopted by the Federation as a summary of the findings of the Conference included several paragraphs favorable to these phases of home economics interests.

Thanks to the excellent planning of Mrs. A. H. Reeve, the chairman of the section on home and school, and also to the general interest in the subjects on her program, the two meetings of that section drew large attendance, fully 250 persons signing the register, including some from nearly all of the countries represented at the Conference. The scheduled speakers included Mrs. Reeve, who pointed out how through parent education and closer contacts between parents and schools the home may assume its proper influence in the present-day educational scheme; Miss Helen Atwater, editor of the JOURNAL OF HOME ECONOMICS, who spoke on the relation of homemaking to the personal development of the members of the family; Dr. Paul de Vuyst of Belgium, well known to home economists for his interest in "familial education" and the home as a character-building agency; The Honorable Mrs. E. Franklin, president of the Parents' National Education Union of England; Dr. E. Graham Howe of the British Psychological Society, a leading authority on mental health of normal children; Lord Allen of Hurtwood, a prominent figure in English political life who is also vitally interested in social adjustment as it affects mental and physical welfare, especially in children; and M. Georges Milsom of Paris who told of Junior Red Cross work throughout the world. Among the persons known to JOURNAL readers who took part in the discussions from the floor were Mrs. Hugh Bradford and Miss Alice Sowers of the National Congress of Parents and Teachers; Dr. W. Carson Ryan, Jr.; Miss Dorothy Ellis of the United States Indian Service; Mrs. Ivah Deering, author of "The Creative Home"; Miss Alida Shinn of Mills College; Mrs. Marietta Johnson of Fairhope, Alabama. South Africa and Ceylon were the most distant countries heard from.

The International Federation of Home and School was one of the affiliated organizations meeting in connection with the Federation and one whose interests are very similar to those of the World Federation's section on home and school. In fact, close relation between the two has been happily fostered by the fact that both have been presided over by Mrs. Reeve.

The International Federation of Home and School has received its chief financial backing from the National Congress of Parents and Teachers, and its headquarters have heretofore been in the United States. On the recommendation of the former officers, however, leadership for the next two years has been transferred to England with Miss Ishbel MacDonald as president and Lord Allen of Hurtwood as chairman of the executive board; headquarters will be at the offices of the

Home and School Council of Great Britain, 9 Tavistock Square, London, and Miss Muriel A. Payne, organizing secretary of the Council, is to act as secretary of the International Federation. The proposal for this change was warmly approved, and several British delegates expressed appreciation of the generous graciousness with which the American founders of the organization voluntarily relinquished direction. It was unanimously insisted that Mrs. Reeve become vice-president and that the former committee chairmen hold over for the next two years. Among the latter are two United States home economists, Miss Grace Frysinger, who heads the committee on rural life, and Miss Helen Atwater, chairman of the committee on the home.

An excellent general account of the Dublin meetings appeared in *School and Society* for September 16; it is by Dr. Ryan, who was present as official representative of the United States Office of Education.

HONORABLE MENTION TO THE AMERICAN HOME ECONOMICS ASSOCIATION. At the suggestion of several other members of the American Association of Trade Executives, Alice L. Edwards submitted an exhibit of the American Home Economics Association's work in consumer education in the annual competition for the best trade association job. In the report of the award committee, of which Secretary Roper was chairman, honorable mention was made of the exhibit as showing exceptionally sound and beneficial work, which, however, was not considered to come within the accepted scope of trade association activity. Of the American Home Economics Association the report said: "It has worked tirelessly and effectively for many years in behalf of the American home. Its aim, in its own words, is 'the development and promotion of standards of home living that will be satisfying and desirable to the individual and profitable to society by cooperating the associations of manufacturers, jobbers and retailers, schools and colleges as well as consumers.' "

THE MARKET FOR SOCIAL AND HOME ECONOMICS INFORMATION. What the chances are for interesting the public this year in information about social work is wittily stated in the opening paragraphs of the September *News Bulletin* of the Social Work Publicity Council; and since by changing the words "social work" and "social workers" to "home economics" and "home economists" the

advice would be almost equally applicable to the latter, we are passing it on to cheer and help them in their attempts to interpret home economics to the public.

Fair and cooler. Our forecast on public interest in social problems for the next few months is: Big news values in adult uses of leisure time; slump in attention to private relief efforts; family budgets and a reasonable standard of living, good; crime prevention, excellent; the chance for abolishing child labor, continued good; a nationally minded press.

More Substance. Plenty of seasoning with concrete instances and freshly gathered facts and figures ought to make fall publicity more palatable—whatever the subject. We know that some people like a good deal of sweetening but it doesn't need to be a sugar coating of pretty pictures and phrases with nothing much under it. And above all, dear publicity chef, do thicken it. We have had too much thin publicity—you know the kind—loose general statements about needs and services, threadbare stories and appeals, obscure and meaningless phrases skimmed hastily off the top of a social work vocabulary, without ever digging down into the actualities of what social work is all about.

HOME ECONOMICS AT THE AMERICAN VOCATIONAL ASSOCIATION. According to preliminary plans, unusually good sessions are being worked out for the home economics section of the American Vocational Association at the annual meeting in Detroit, December 6 to 9. They are being arranged by Ruth Freegard, state supervisor of home economics for Michigan, as chairman of the program for the home economics section and by Elisabeth Amery, vice-president of the Association representing the home economics section. There will be forenoon and afternoon sessions on Thursday, December 7, a forenoon session and a luncheon on Friday, and a forenoon session on Saturday. The subjects of discussion will fit in with the general convention theme, "Vocational Education for Relief and Reconstruction."

Panel discussions will be used in conducting the Thursday sessions, with recognized leaders in different parts of the field starting informal discussions. In the morning the question before the meeting will be "What Are the Present Social and Economic Problems of Family Life?" and the list of contributors includes Wendell Vreeland, Irma Gross, Howard Bigelow, Robert G. Foster, Charles Fisher, Lemo Dennis, and Marie Rasey. The question for the afternoon is "How Can Home Economics Help Most Effectively in the Reconstruction of Social and Economic Situations in Family Life?" and speakers will include Julia Grant, Minnie L. Irons, Adah Hess, Laura Hadley, Edna Wolfe, Mildred Luke, and Alma Ganz.

The first hour on Friday morning will be devoted to the business meeting of the section, with reports of this year's work and discussion of next year's. Then will come a consideration of "Vocational Home Economics for Relief and Reconstruction" with Frances Zuill as chairman. Hazel Thompson will preside at the luncheon at which two or three speakers will discuss "Home Contacts and Reconstruction."

The session on Saturday morning is being planned especially for classroom teachers, and its topic is "Constructive Programs for Present Day Needs." Florence Fallgatter is expected to preside; speakers are being carefully chosen to represent special phases of home economics subject matter; and Beulah Coon will discuss "Criteria for Determining Contents in Vocational Home Economics Courses."

NUTRITION, HOME ECONOMICS, AND THE RED CROSS. The annual Roll Call of the American National Red Cross, November 11 to 30, reminds home economists of their special interests in the Red Cross program. Some may be surprised to realize in how many ways home economics comes into the picture and to what extent trained home economists are utilized by local chapters.

During the year Red Cross chapters have engaged in various projects which help to prevent hazards to the health and nutrition of children and adults. The provision of milk and school lunches for children, the promotion of food conservation, cooperation in food relief measures, and the promotion of food and nutrition classes have been of significant value in safeguarding the health of families.

Two hundred and twenty-five women trained in home economics have been authorized as Red Cross food and nutrition instructors and have volunteered to instruct families on relief, social case workers, public health nurses, and teachers regarding food values, adequate diets, how to best spend the food money and proper methods of cooking. Nine well qualified nutritionists have conducted community nutrition programs on a paid basis in nine Red Cross chapters. A reserve of 217 enrolled Red Cross dietitians was ready to serve the Army and Navy and Red Cross in the event of war or disaster and to serve local chapters as food and nutrition instructors and members of nutrition committees. Large numbers of other women trained in home economics have assisted Red Cross chapters in adapting food budgets to local conditions, visiting homes to interest mothers in attending Red Cross food and nutrition classes, promoting garden campaigns and food conservation work.

These groups of women became a local resource of Red Cross chapters to whom home service workers, social case workers of other agencies, teachers, nurses, families on relief and reduced incomes could turn for practical suggestions and information on nutrition.

An advisory service to Red Cross chapters engaging in nutrition activities is maintained by a well qualified nutrition consultant at National Red Cross Headquarters, Washington, D. C., Miss Melva B. Bakkie now occupying this position.

WHAT A MOTHER THINKS OF HOME ECONOMICS. If we are best advertised by our loving friends, a letter which a Pennsylvania woman recently wrote to the State Department of Education should be cheering to home economists everywhere. She said:

Please do all you can to include household economics in the curriculum of our public schools.

My three daughters all received the benefit of a most efficient course of household economics in the Wilkinsburg public schools. We consider their education would have been incomplete without it.

What was their good fortune to receive, I am asking for other mothers' daughters.

This course gives an interest and a dignity to ordinary housework which can't be aroused at home. It raises the routine home work to a profession.

How often the "H. E." student raises the standard of the home by practising her arts! Very often she raises her mother out of a rut of inefficiency, too. Regardless of the type of home, it is a fine thing for the girl and her family.

May this grand old state of ours not lower her educational standard!

Progress caused her to develop a fine department of homemaking in our schools and we certainly can't drop it. Let us continue to move forward; let us ever build up; and above all, let us hold fast to that which is good.

If every mother who endorses household economics were to write you, this would be only one in a million.

RESEARCH

HOME DRY CLEANING SOLVENTS

PAULINE BEERY MACK, POLLY BELLE KESSINGER, ELSA IRENE OTTINGER, AND MARY ELIZABETH DECK

REPEATED requests from housewives and from home economics teachers and extension workers for definite information concerning the cost of doing dry cleaning at home, and concerning the choice and handling of home dry cleaning solvents prompted this study, which was begun early in 1930.[1] The work has been continued for three years and has included studies on:

1. The composition of representative home cleaning solvents as based on a study of their distillation ranges supplemented by physical and chemical tests.
2. The possible fire hazards attendant upon their use.
3. The cleaning efficiencies shown when these solvents were used with standard soiled pieces under home conditions as compared with the efficiencies found when standard test pieces of the same type were sent to representative commercial plants.
4. The effect of these solvents on representative fabrics.
5. Their effect upon the skin of the hands.
6. Possible methods of recovering and re-using them.
7. Their costs per gallon as compared with the cost of the materials of which they are composed when bought under their own names.

Fifty-eight home dry cleaning solvents were included in the study, together with ten products sold as household spotting agents. Comparisons of cleaning efficiencies were made with test pieces sent to forty commercial dry cleaning plants.

Hazards other than from fire were not investigated experimentally, although reference is made in the discussion to certain known facts concerning the toxicity of some of the ingredients found in the various solvents.

It should be borne in mind that the cleaning efficiencies reported in this paper relate to the particular home conditions under which the tests were made and should in no wise be interpreted as showing the rating of the same types of solvents when used under commercial conditions with

[1] A part of the funds used to carry out the work was made available by Consumers' Research, Incorporated.

the soaps, special equipment, large quantities of solvent, and the methods of solvent recovery used in a commercial dry cleaning plant but not possible for the home.

Methods of laboratory procedure. The compositions of the solvents were determined by the method of analysis commonly used with mixtures of organic liquids. Each solvent was fractionally distilled by means of an efficient fractionating column, fractions coming off at every two-degree interval being collected separately and their volumes measured. The index of refraction of each fraction was determined, and specific gravity measurements were made on all fractions affording sufficiently large volumes for the purpose. Other physical and chemical tests were made in some instances.

Tests to determine whether or not the liquids were able to be ignited in an open dish were made on each solvent and on each fraction obtained therefrom. Flash-point determinations were made by the closed cup method on all solvents not listed in the January, 1933, *List of Inspected Gas, Oil, and Miscellaneous Appliances* issued by the Underwriters' Laboratories maintained by the National Board of Fire Underwriters (1).

Chart 1 shows the distillation diagrams of five representative cleaning solvents. In it diagram A is that of a typical gasoline; diagram B is that of a trade-named solvent sold for home cleaning purposes, which was found to consist of a light petroleum distillate of a range comparable to that of gasoline; diagram C is that of a commercial cleaning solvent of a higher distillation range than gasoline, and complying with the specifications of the product known to the cleaning industry as Stoddard solvent; diagram D is that of commercial carbon tetrachloride; and diagram E is that of a home cleaning solvent consisting of about equal parts of carbon tetrachloride and a petroleum distillate the upper boiling limit of which is 132°C.

The figures above the volume lines in the distillation diagrams are the indices of refraction of fractions represented by the lines above which they appear. The index of refraction determination is one which can be made accurately with but a small amount of liquid, and which is of considerable val e in helping to identify organic liquids. When figures appear on the volume lines themselves, they are the specific gravities of the particular fractions in question.

The cleaning efficiencies of the solvents were determined by the use of test pieces, each consisting of a piece of standard soiled wool batiste 12 inches square sewed to an unsoiled white woolen piece of the same size.

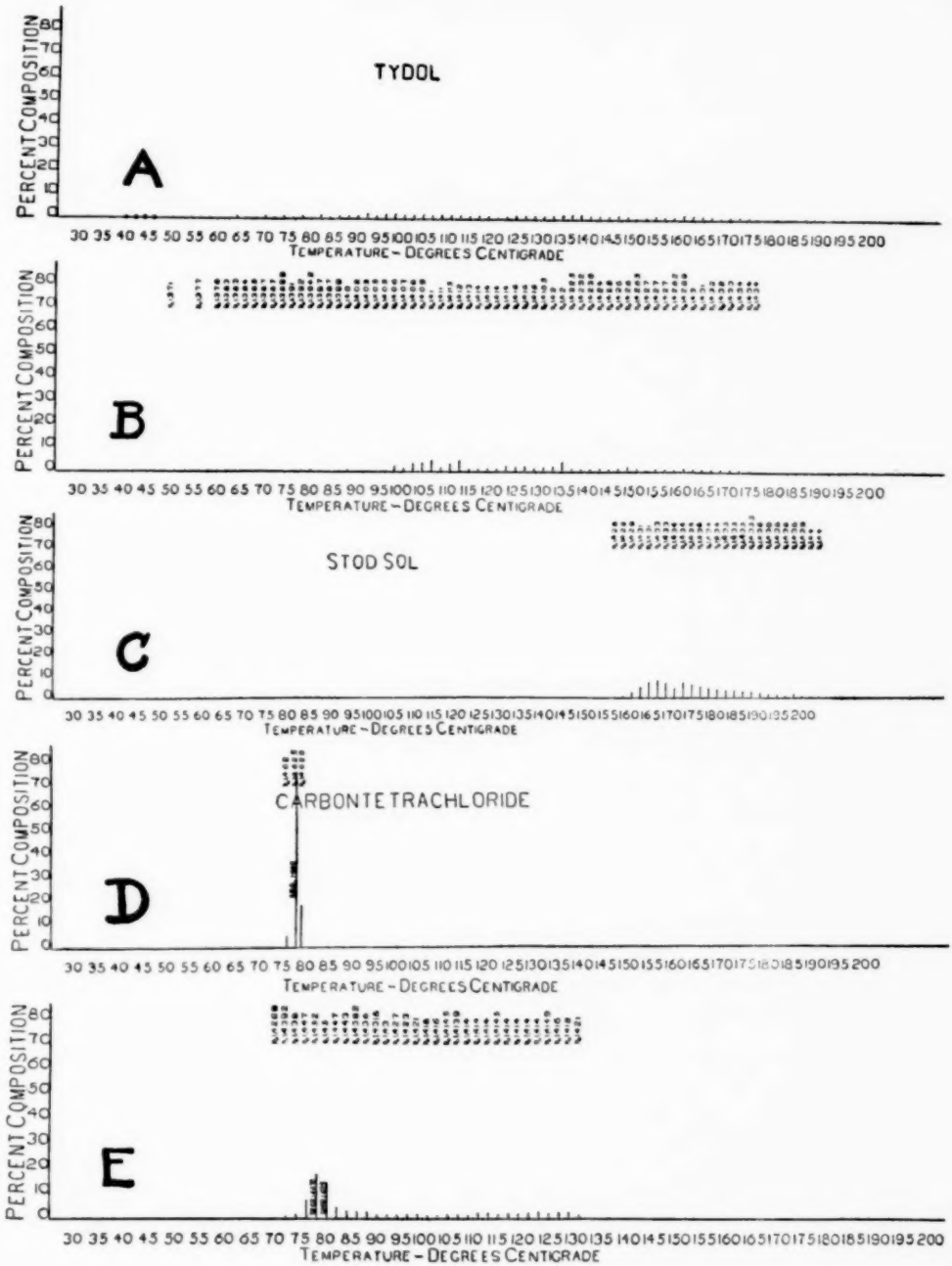

CHART 1. DISTILLATION DIAGRAMS OF REPRESENTATIVE HOME SOLVENTS

(SEE PAGE 790)

The soiling mixture used consisted of finely divided carbon black, a mineral oil, and stearin, applied in a carbon tetrachloride suspension. A topping of dilute sugar solution was added to simulate the water-borne stains frequently found on garments. About eighteen months' time was consumed in a study of the proper kinds and amounts of the soiling materials needed for the problem in hand, and of the best methods of applying them. The soiling method thus developed allows for the measurement of a wide range of cleaning efficiencies.

A spectrophotometer was used to measure the cleaning efficiencies. These were determined in terms of light reflectancy of the pieces as compared with a standard white magnesium oxide block, using two almost monochromatic filters transmitting light at 501 and 700 millimicrons, respectively. Chart 2 shows a typical graph of spectrophotometer readings made during this study. Since white and grey surfaces reflect light uniformly throughout the spectrum, it is possible to connect the values plotted on the graphs for the two points in the spectrum at which readings were made, and thereby make a line which represents the fraction of the total light from the spectrophotometer light source which is reflected by the test piece in question.

In both of the diagrams shown in chart 2, line 1 represents the portion of the total light reflected by the original soiled piece; line 2 that reflected by the soiled piece after cleaning; line 3 that of the white piece after cleaning; and line 4 that of the original white piece.

In diagram A of chart 2, the test pieces showed the results of excellent cleaning. The light reflectancy of the soiled piece increased as the result of cleaning until it was almost the equivalent of the original white piece, and the white test piece lost only very slightly in whiteness (and hence in light reflectancy) as a result of the cleaning process. In diagram B, on the other hand, poor cleaning is shown, since the soiled piece is not improved in light reflectancy to a very marked degree, and the white piece shows much less light reflectancy than it did originally.

In order to simplify the report of cleaning efficiencies, 10 classes were set up each for the soiled and the white pieces, class 1 including those of the highest and class 10 those of the lowest degrees of whiteness in both cases, the whiteness being measured in terms of light reflectancy.

Cleaning was carried out with each solvent (1) by following closely the directions given by the manufacturer, and (2) by standard uniform laboratory methods which enabled comparisons to be made between the different solvents, between the use of closed and open vessels, and between rinsing and not rinsing. In the standard laboratory

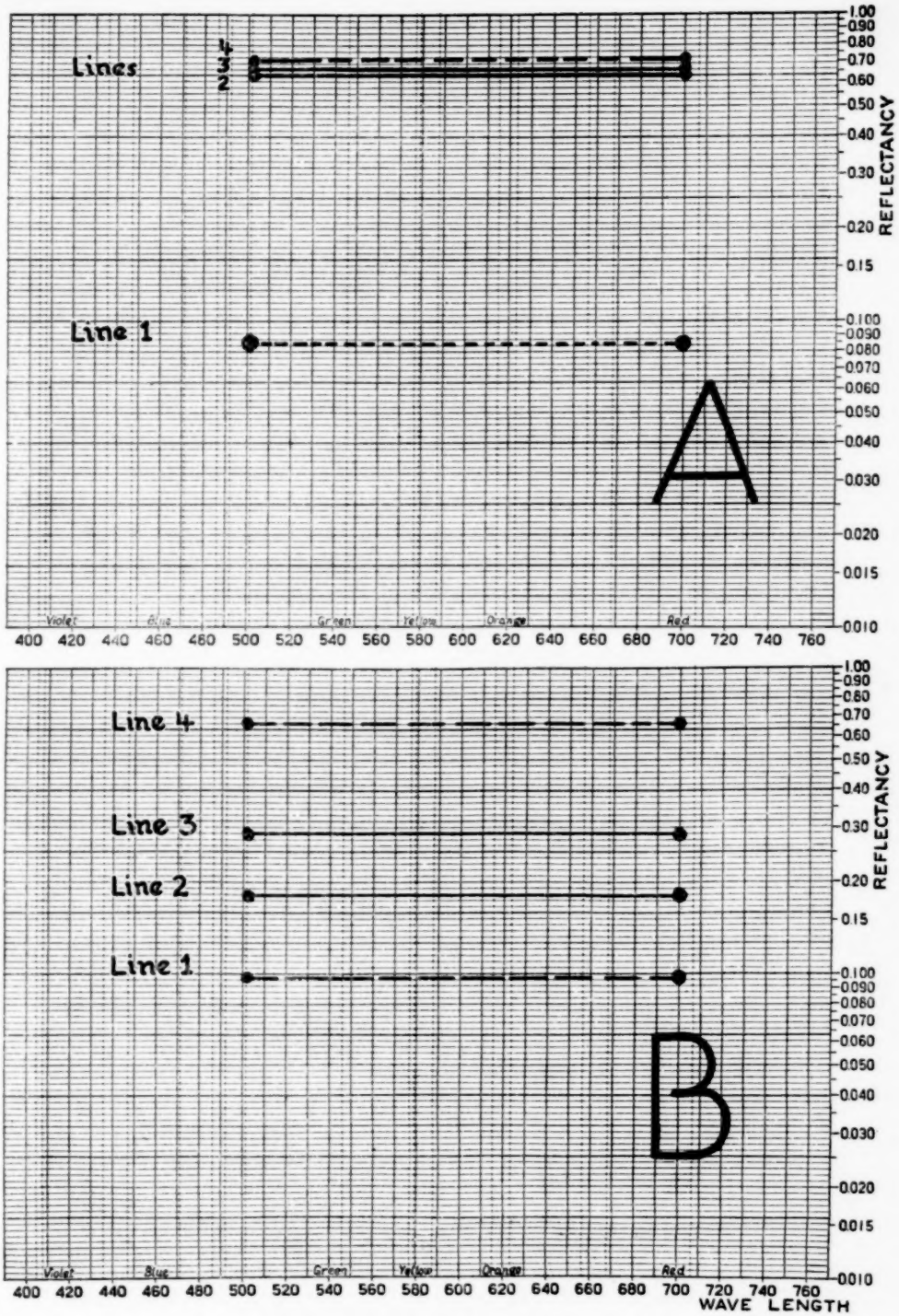

CHART 2. GRAPHS OF SPECTROPHOTOMETER READINGS SHOWING LIGHT REFLECTANCY OF TEST PIECES (SEE PAGE 792)

methods, a uniform cleaning time of 15 minutes was used and a uniform volume of solvent (800 cc.) was used for each test piece, which weighed about 10 gm. Both the time of cleaning and the amount of solvent in proportion to the weight of the fabric cleaned were more liberal than called for in the directions accompanying any of the solvents.

Method of collecting solvents for the study. Two sources of information served to help select solvents for this study, namely the underwriters' lists and requests from consumers. The manufacturer of each of the 97 cleaning solvents given on pages 77 to 84 of the January, 1933, list of the Underwriters' Laboratories was asked whether or not the product so listed was sold in one-gallon cans for home dry cleaning purposes. If such were the case, the solvent was ordered. Many of the solvents in the list were found to be sold only for commercial dry cleaning purposes. A few were intended for some purpose other than textile cleaning as, for example, the cleaning of printing rolls. Three of the manufacturers failed to answer repeated letters, and two refused to sell their products for experimental purposes or to reveal where the solvents could be purchased on the retail market. Twenty-five solvents on this list were procured and included in this study.

Thirty-three solvents not included in the list of the Underwriters' Laboratories previously cited were added to this study as a result of requests from teachers, extension workers, and housewives desirous of obtaining concrete information about these specific products.

Ingredients found in the solvents studied. The 58 solvents in the study, which were sold for the purpose of cleaning fabrics at home by immersion, were found to consist of one or more of the following organic liquids: petroleum distillates of various degrees of volatility; carbon tetrachloride, chloroform, trichlorethylene, ethylene dichloride, propylene dichloride, benzene, toluene, ether, and alcohol.

Fire hazards of solvents studied. The fire hazards of each of the various solvents investigated (as well as other complete data collected during the study) are given in a mimeographed report "An Analysis of 58 Home Dry Cleaning Solvents and 10 Home Spotting Agents," copies of which may be purchased from the American Home Economics Association, 620 Mills Building, Washington, D. C., for 30 cents each.

The fire hazards of the solvents listed by the fire underwriters are there given as they appear in the official list (1). Those of the unlisted solvents are given as they were found in the laboratory by those making the study herein reported.

In reporting the fire hazard of a cleaning material, the Underwriters'

Laboratories give both the flash point of the material (if it has a flash point when first opened) and also a fire hazard rating based upon well known liquids the hazards of which have been definitely established by field experience through a long period of years. In the rating scale thus developed, ether, which is one of the most flammable and explosive organic liquids known, is rated as 100. In this classification ratings are given as follows:

Ether rates	100
Gasoline rates	90 to 100
Alcohol (ethyl) rates	60 to 70
Kerosene rates	30 to 40
Paraffin rates	10 to 20

In rating a liquid according to the above classification, the Underwriters' Laboratories have explained in their publication *Method for the Classification of the Hazards of Liquids* (2) that the following points are taken into consideration in each case: volatility, ignition temperature, flammable or explosive limits, combustion intensity, vapor density, toxicity, nature or products of combustion, and nature of products of decomposition on storage or heating. The various laboratory tests applied to determine the fire hazards of a liquid are repeated a number of times after periods of air evaporation.

The "Cleaning Materials" listed by the Underwriters' Laboratories (1) are grouped as follows: (1) classed as noncombustible and nonflammable; (2) classed with chloroform; (3) classed with or less than paraffin oil; (4) classed with kerosene; (5) classed between alcohol (ethyl) and kerosene.

Of the 14 solvents classed as noncombustible and nonflammable, only 7 were found to be purchasable in cans of home size, the remainder being available for commercial cleaning plants only. These 7 gave distillation diagrams which indicated that they were composed either of carbon tetrachloride or of a mixture of carbon tetrachloride and trichlorethylene. These solvents carry no fire hazard. Their possible toxicity is discussed on page 804.

Two cleaning solvents were classed with chloroform in the Underwriters' list. Both of these, however, were found to be available only in commercial quantities. One solvent was classed as "with or less than paraffin oil," but its manufacturer was not willing to supply it for experimental purposes, nor to reveal where it could be bought at retail.

Eleven solvents were procured which were found in the list to be classed

with kerosene. These were all found to consist of petroleum distillates less volatile than gasoline, most of them answering the specifications for Stoddard solvent, a petroleum product widely used in commercial cleaning. All were rated by the Underwriters' Laboratories as 30 to 40 in a class with kerosene. They ranged in flash point from 38°C. (100.4°F.) to 56°C. (132.8°F.). Since gasolines are rated 90 to 100 on the same scale, and since they have flash points in the neighborhood of −40°C. (−40°F.), it can readily be seen that this group of solvents carries considerably less fire hazard than does gasoline. They are flammable, however, and they might, under certain conditions, become explosive.

The cans in which the solvents of this group were sold were examined for fire warnings. Some of them bore warnings which were adequate, while others were inadequate. Some were found to carry merely the term NON-EXPLOSIVE in conspicuous type. This is misleading to the housewife who is likely to think that the term implies nonflammability. It is also incorrect in the strict sense of the word, since solvents of this type might explode under some circumstances. Various testing laboratories report petroleum distillates of this range as semi-explosive.

Seven solvents listed by the Underwriters' Laboratories in the class between ethyl alcohol and kerosene were included in the research. Three of these were classed by the underwriters as 40 to 50 and four as 50 to 60 on the arbitrary scale previously explained.

One of the seven solvents investigated in this class appeared from its distillation data and subsequent physical and chemical tests to consist of a mixture of carbon tetrachloride and toluene. The other six appeared to be mixtures of carbon tetrachloride and petroleum distillates.

It is interesting to note that, although these solvents were not found to give an initial flash point or to burn in an open dish, they are listed by the Underwriters' Laboratories in a more hazardous class than kerosene. This is explained above in connection with the method used by these laboratories in classifying liquids as to their fire hazard. In their literature on the subject, it is further mentioned that the toxicity of a substance is recognized as having an indirect bearing upon the fire hazard involved in the use of the product. The reason given for this is that a toxic substance may, by contact with the skin or through inhalation, act upon the body of the person using it in such a way as to incapacitate or drive him away, thereby introducing a serious hazard in case of fire.

With regard to home dry cleaning solvents composed of petroleum distillates mixed with such nonflammable liquids as carbon tetrachloride, a publication of the State Fire Marshal of California (3) has this to say:

There is also a class of solvents on the market which is advertised as non-explosive. Some of these are secret compounds, but many of them are made of gasoline in combination with a nonflammable chemical. A fault of these solvents is that the added chemicals evaporate more quickly during use than does the gasoline, which leaves the fluid practically nothing but gasoline. Such products should not be purchased in greater quantities than a pint, and should only be used direct from the can to remove grease spots.

The word gasoline was probably used in the above quotation because it is a term which the layman understands. The six solvents under discussion were found to contain carbon tetrachloride mixed with petroleum distillates of various ranges, all of the latter, however, containing some fractions less volatile than the carbon tetrachloride.

Two gallons of one of the best known home cleaning solvents of this type were used in this study for cleaning fabrics six times in succession, recovering the solvent by a recommended home method between uses. Distillation determinations were used between each cleaning. Fractionation diagrams showed decreasing percentages of carbon tetrachloride after each re-use, with but negligible amounts remaining after four successive uses.

The 33 solvents of the study not appearing on the list of the Underwriters' Laboratories (1) were found to differ from each other materially in their fire hazards. One group was found to be nonflammable under all circumstances; another consisted of mixtures of flammable and nonflammable substances; another of highly flammable and explosive petroleum distillates; another of petroleum distillates of about the Stoddard range; and another of miscellaneous mixtures.

It was a surprise to find that a large number of home solvents are not listed by the Underwriters' Laboratories maintained by the National Board of Fire Underwriters, nor by any other nationally recognized laboratory. Inspection and listing of products of this kind is not required by law, nor is it required that materials which are examined by laboratories carry on their containers a statement as to the degree of their fire hazard. A consumer wishing to know the fire hazard of a solvent not advertised as examined by a nationally recognized laboratory has no recourse save the heavy expense of a laboratory analysis. In the case of products advertised as tested by a laboratory of nationally recognized standing, a consumer can obtain no information as to what fire hazard the laboratory has assigned to a given product without writing to the laboratory. In the case of the Underwriters' Laboratories, revised lists of inspected products are issued at frequent intervals. By studying

these lists, one will, in many cases, receive a vastly different idea of the fire hazard of a certain liquid than will be had by reading the advertising material which the manufacturer issues concerning it.

The promiscuous sale of motor fuel for home dry cleaning purposes was revealed during this study. One of the persons carrying on the investigation visited 22 filling stations maintained by various oil companies. In each case, the attendant was asked whether or not he sold a special solvent for home dry cleaning purposes. In two cases only was this a fact, and in both cases the solvent was purchased. In all other cases, the attendant stated that it was the custom of the place to sell gasoline from the hose for this purpose provided the person wanting it had a container. In all cases containers were procured and gallon quantities of the motor fuel purchased. In only 2 of the 20 cases were any warnings whatever given of the flammability of the product.

The fire hazard of gasoline has previously been mentioned in this paper. The purchase of gasoline at a filling station may also involve a hazard other than fire—that of tetra-ethyl lead poisoning. A new method of marketing gasolines at present makes it possible for gasolines containing this compound not to be so marked at the filling station. Since tetra-ethyl lead is one of the few compounds definitely known to be poisonous merely by absorption through the skin, the dangers of handling gasoline containing this substance (aside from the fire hazard) cannot be overestimated.

Detergency efficiencies of solvents studied. The cleansing efficiencies of the 58 solvents used according to the directions given by the manufacturers were such that the soiled piece in no case exceeded class 7. In many cases the soiled piece was of but a slightly lighter shade than originally, whereas the white piece was grayed during the cleaning until the two were nearly the same shade. In other words, the agitation of fabrics for short times in the small amounts of solvent called for in the directions accompanying these solvents was found in most cases to serve merely to distribute the soil evenly over the entire fabric, but to remove but little of it.

A summary of the results obtained by the various uniform laboratory cleaning methods follows.

In the standardized closed vessel method, in which there was used a two-gallon home machine which turned end over end with a hand crank, the soiled pieces cleaned with the 58 solvents ranged from class 6 (for two solvents only) to class 10, with a class average of 8.2 and a detergency efficiency average of 18.6 per cent. One of the two solvents ranking in

class 6 was commercial trichlorethylene bought under its own name, and the other was a trade-named home solvent consisting of a mixture of trichlorethylene and carbon tetrachloride. The white pieces used in this series of determinations ranged from class 4 to class 9, with a class average of 7.9.

In the standardized open vessel cleaning method, the class range and the class average both for soiled and white pieces were practically identical with those of the standardized closed vessel method.

When cleaning by the standardized open vessel method was followed by rinsing each test piece in 800 cc. of new solvent (a more liberal amount in proportion to the weight of fabric cleaned than is called for in any of the manufacturers' directions), the efficiencies as measured by the soiled pieces ran as high as class 6 in six cases only. The class average for this method was 7.7, and the efficiency average was 26.8 per cent.

Graphs of the comparative cleaning efficiencies of the 58 solvents using the standardized closed vessel method are given in charts 3 and 4, the results for the soiled pieces being in the former and those for the white in the latter. In these graphs, group I home solvents are those included in the Janurary, 1933, list of the Underwriters' Laboratories (1). Group II are those not so listed. The sub-groups are as follows: A, solvents classed by the underwriters as noncombustible and nonflammable; B, those classed by the underwriters with kerosene; C, those classed by the underwriters between ethyl alcohol and kerosene; A^1, those found by the authors to be nonflammable; B^1, those found to consist of mixtures of carbon tetrachloride and petroleum distillates more volatile than carbon tetrachloride; C^1, those found to consist of carbon tetrachloride and exceedingly volatile petroleum distillates; D^1, those found to consist of petroleum distillates of about the Stoddard solvent range, and similar to those classed by the underwriters with kerosene; and E^1, those found to consist of miscellaneous mixtures.

In charts 3 and 4 there are also given graphs of the efficiency ratings of the soiled and white portions of test pieces sent to 40 representative commercial dry cleaning plants. Plants were chosen for this purpose in which different types of cleaning solvents were used and in which prices charged during the last half of 1932 and the first half of 1933 ranged from 49 cents to $1.50 for a garment, these prices including special spot removal and finishing, as well as the dry cleaning operation proper. The plant managers were requested to give the test pieces but one regular dry cleaning run. In some instances, one of the authors was present when the pieces were run.

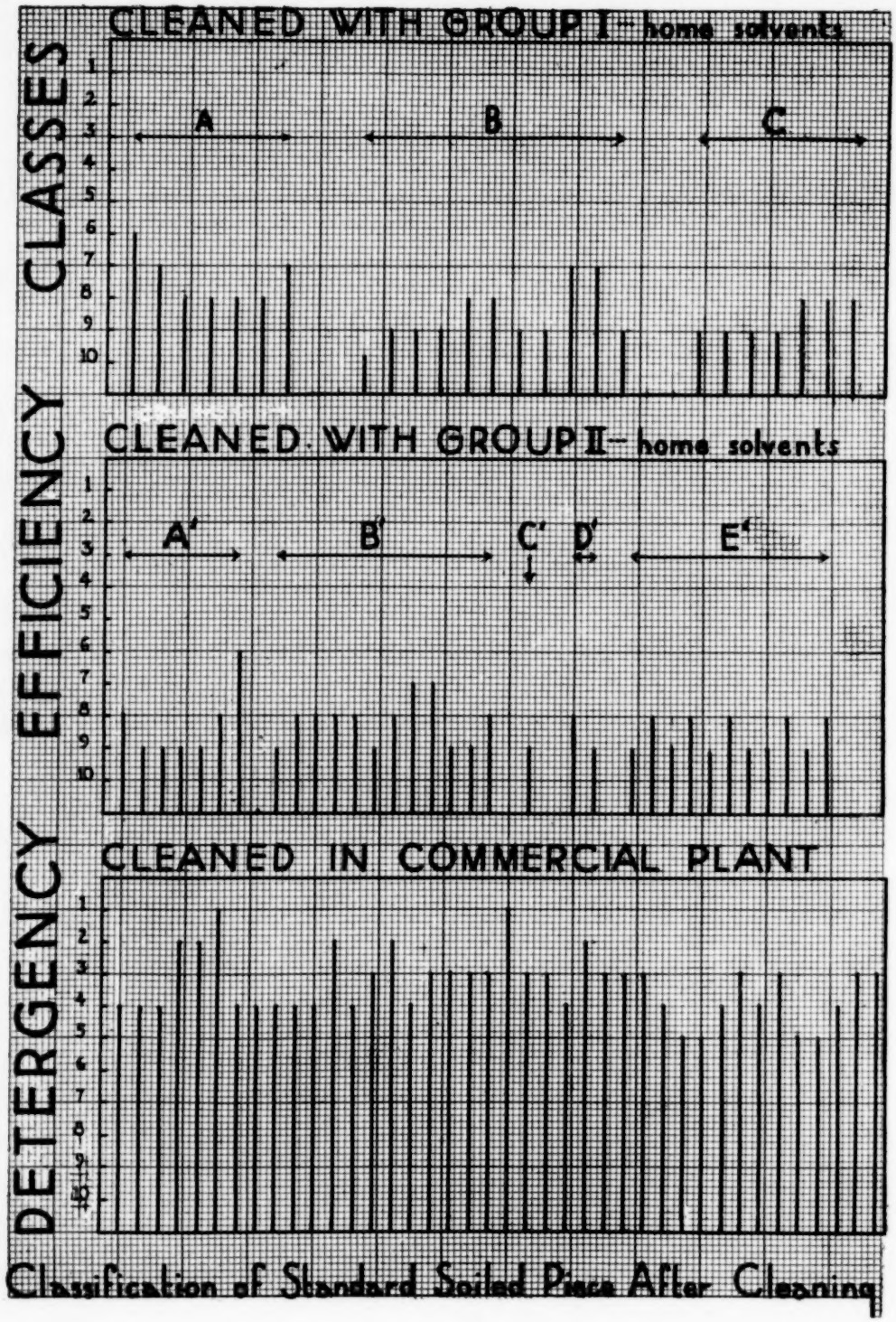

CHART 3. DETERGENCY EFFICIENCY CLASSIFICATION OF STANDARD SOILED TEST PIECES USED IN THE STUDY AS EXPLAINED ON PAGE 799

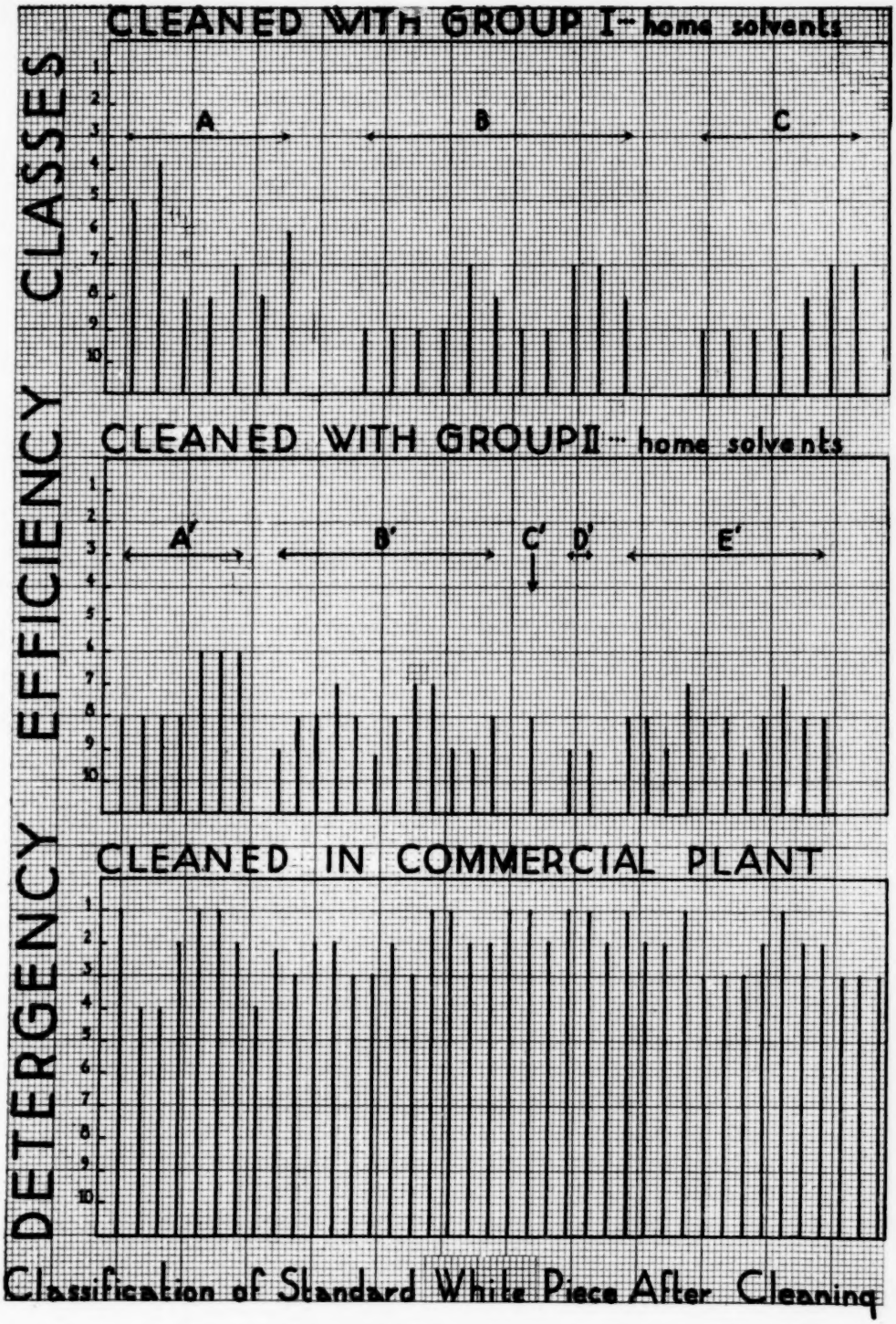

CHART 4. DETERGENCY EFFICIENCY CLASSIFICATION OF STANDARD WHITE TEST PIECES USED IN THE STUDY AS EXPLAINED ON PAGE 799

The soiled fabrics cleaned in the commercial plants ranged from class 1 to class 5, with a class average of 3.3 and a percentage efficiency average of 70.1 per cent. The standard white test pieces attached to the soiled pieces fell in classes 1 to 5, with a class average of 2.1. The superior detergency results obtained through the commercial process are to be accounted for by the fact that commercial establishments are especially equipped to clean fabrics in a large quantity of solvent and soap, followed by passing through the fabric several hundred gallons of clean solvent by a continuous flow system during which the solvent is being continuously clarified.

In the graphs, the first 28 lines representing classes of detergency obtained in commercial plants were for test pieces sent to establishments charging from $1.00 to $1.50. The last 12 were from plants charging from 49 cents to 85 cents. In general, poorer detergency results were obtained with the cheaper establishments, although the test pieces from these plants rated higher in every case than those obtained by the best home methods.

Because the commercial cleaning job involves the removal of special stains (spotting) and finishing, as well as dry cleaning, an effort was made to find whether the price charged for a commercial cleaning job was correlated with the type of work done other than cleaning. For this purpose, 10 light colored silk dresses were each stained with ink, mercurochrome, gravy, and perspiration, and sent as customers' work to ten commercial plants charging prices ranging from 49 cents to $1.50. Although the quality of the spotting and finishing of cleaning firms charging the same price showed individual differences, the cheap jobs were found without exception to be inferior in these parts of the work.

Recovering and re-using home solvents. Solvents were recovered by the various home methods suggested on the labels or in the descriptive matter accompanying them. These methods included filtering through agents similar to kieselguhr, straining through cloth, filtering through a felt hat, and allowing to settle and decanting. All methods of recovery proved to be inefficient, resulting in considerable losses of solvent and progressively poorer cleaning after each recovery treatment. Details of this portion of the study will be found in the more complete report previously mentioned.

Many advertising statements as to the amount of cleaning which could be done with certain solvents were found to be unjustifiably extravagant. The following is typical: "Laboratory tests show by actual experiment that one gallon of — solvent and a box of — purifier (total cost $2.00)

will give sufficient cleaning liquid to do more than $25.00 worth of dry cleaning if figured at conservative prices for professional outside work."

Costs of home solvents. The retail prices paid per gallon for the various solvents may be summarized as follows:

Group	*Sub-group*	*Price Range*	*Average Price*
I	A	$1.50 to $2.50	$2.02
	B	0.25 to 1.00	0.50
	C	1.50 to 3.50	2.20
II	A[1]	1.10 to 2.50	1.65
	B[1]	1.25 to 3.00	1.88
	C[1]	2.25	2.25
	D[1]	1.40 to 1.75	1.58
	E[1]	0.14 to 3.00	1.20

In some cases, the price charged for the solvents was fair as compared with the cost of the ingredients which they were found to contain. In other instances, the price was found to be out of all proportion to that of its constituents. A case in point is that of a trade-named solvent which was found to consist solely of refined naphtha which sold at approximately five times the retail price of similar grades of naphtha.

Effect of solvents on fabrics. Test pieces of pure dye silk; heavily weighted silk; synthetic textile fabrics (1) of the regenerated cellulose type, and (2) of the cellulose acetate type; wool; and cotton were soaked for 10 minutes each in the solvents. During the soaking, some of the pieces were pulled with the hands to see whether they were weakened by the solvent to the point where they could be pulled apart. After soaking and drying, breaking strength determinations were made on some of each group of test pieces.

As a result of this part of the study it was found that none of the solvents had a weakening effect upon silk, weighted silk, synthetic cellulose fibers, wool, or cotton. Both chloroform and trade solvents containing it caused cellulose acetate fabrics (*Celanese*, *Acele*, etc.) to gelatinize. Ethylene dichloride and trade products containing it caused the acetate fabrics to become soft and sticky and to have no measureable breaking strength even after drying. Trichlorethylene caused a weakening of cellulose acetate fabrics in some cases, but no change in others. All of the solvents, when used without dry cleaning soaps, caused weighted silks to have an exceedingly harsh feel after cleaning. (Only new weighted silk pieces, not aged, were used.)

Effect of solvents on the hands. The authors of the paper alternated in the part of the study having to do with the actual cleaning, because of

the painful effect upon the hands caused by immersion in the various solvents. All of the solvents were found to have the effect of removing oil from the skin, thus causing it to become chafed and cracked, particularly around the fingernails. The open vessel method caused considerably worse chafing than did the closed vessel method, although, even in the latter case, immersion of the hands in the solvent was found to be necessary in removing and squeezing the fabrics. There appeared to be little difference between the drying and chafing action on the hands of the different solvents studied.

Toxicity of the solvents. The toxic effect of such cleaning solvents as carbon tetrachloride and trichlorethylene are well known to the commercial cleaner, and closed types of machinery have been devised for their use in commercial plants. Biological studies on the effects of these and other organic solvents when used in the quantities involved in home dry cleaning have unfortunately not been published. The known toxic nature of many of the ingredients found in home cleaning solvents, however, would suggest that their use even in small quantities be approached with caution. A few of the definitely established facts concerning some of these materials follow.

An acute condition called "naptha jag" is known in industries in which this solvent is used in considerable quantities, as for example, in the rubber industry. Naptha, petroleum ether, and other exceedingly volatile petroleum distillates are mentioned by Dr. Alice Hamilton (4) as having toxic action on the central nervous system. She further states that chronic cases of poisoning with these volatile solvents are common but not easy to diagnose. She cites various cases of such chronic effects mentioned in the medical literature, notably that of a French woman employed by a cleaning establishment, who developed a serious nervous disorder from the continuous contact of her hands with light petroleum distillates in glove cleaning.

Haggard, in a study of the effects of gasoline vapors (5), found that such vapors had an acute toxic effect on dogs, the animals being unable to stand in atmospheres containing 156 parts of the vapor to 10,000 parts of air. Some of the experimental animals developed spasms and died after being placed again in the air, whereas others recovered. Cases are known of chronic poisoning among humans as a result of breathing gasoline fumes over long periods of time.

The heavier petroleum distillates decrease in toxicity with a decrease in their volatility, although cases of skin lesions leading to acne and eczema are known to result from long-time contact of these products with the skin.

The toxicity of carbon tetrachloride is a subject which is being investigated in several laboratories at the present time, particularly for the purpose of establishing the threshold of danger of its vapors when breathed by human beings. Reports on these studies, however, have not yet been made. It is definitely known that breathing the vapors of this compound causes anesthesia, and the authors of this paper are personally familiar with three cases in which this condition resulted from the use of this solvent in gallon amounts in cleaning garments at home in small closed rooms. Aside from its acute effects, carbon tetrachloride is known to produce chronic ills in persons breathing but small quantities of its vapors through considerable periods of time. The compound appears to have a particularly deleterious effect upon liver and kidney tissues, some of the latter of which cannot be rejuvenated once destroyed. Just how large an amount of the solvent is needed or how many and how long the periods of inhalation must be in order to produce chronic liver and kidney ailments, however, is not now known.

All chlorinated hydrocarbons are known to have both acute and chronic deleterious effects on the human organism. Concerning the amounts of such compounds as ethylene dichloride, propylene dichloride, or trichlorethylene needed to become dangerous, even less is known than in the case of carbon tetrachloride. As regards trichlorethylene, one of its leading manufacturers writes as follows to the senior author of this report:

> Permit us to state that the use of this product as well as other noncombustible and nonflammable solvents on the market at present is not practical for home cleaning as all of the fluids are volatile. Others familiar with this type of solvent from having worked in this field for many years strongly urge against their use except in special closed equipment.

About the toxicity of benzene and of its near relative toluene, even in small quantities, there can be no question. The medical literature is full of reports of the toxic effect of benzene and the benzene hydrocarbons. Not only those who work with benzene but also those who are in the same room where small amounts of its vapors are present suffer from its ill effects. The New York Department of Labor special bulletin number 150, dated February, 1927, (6) states concerning the toxic effects of this compound:

> The harmful effect of benzo (commercial benzene) in cases of chronic poisoning is due to its direct contact with the blood and blood-forming organisms. Susceptibility to poisoning of benzol varies greatly in different individuals as it does in

the case of practically all industrial poisonings, but cases reported in the laboratory .... seem to report a greater susceptibility on the part of young girls ..... The risk of poisoning is not limited to those who work directly with benzol, but workers who are indirectly exposed through merely being in rooms where benzol is used are subject to its effects also.

In view of the fact that there are some points now established concerning the toxicity of the volatile organic compounds mentioned, and in view of the further fact that every one familiar with the situation recognizes that further study should be made before one can definitely say that no chronic bad results will arise from the use of these liquids even in gallon amounts at home, the inadequacy of some of the precautions on home dry cleaning agents is regrettable.

Home spotting agents. Ten home spotting agents were purchased in 4- or 8-ounce bottles and investigated as to composition and effect in removing various types of stains. The chief ingredients of the various solvents were found to include carbon tetrachloride, ethylene dichloride, petroleum distillates, chloroform, alcohol, and benzene. The spotting efficiency of the solvents on 17 kinds of common stains was tested. All of them were effective in removing ordinary grease and axle-grease stains, but were ineffective with the other ordinary stains. The prices paid for the products ranged from 10¢ to 50¢ for 4 ounces, this being equivalent to a range of $3.00 to $17.80 per gallon, a price considerably greater than one would need to pay for the same substances bought under their own names, even if purchased in small quantities rather than on a gallon basis.

Summary and conclusions. Fifty-eight home dry cleaning solvents and ten home spotting agents were studied. The results as regards the composition, the cleaning efficiency, and the cost of the substances studied may be summarized as follows:

The cost of doing dry cleaning at home was found to be greater than is commonly supposed, and the cleaning efficiencies of the various solvents proved to be low.

The retail prices of many of the secret preparations were found to be high as compared with the actual cost of their ingredients.

It was found that many of the preparations had not been sent to the Underwriters' Laboratories or to any other nationally recognized laboratory to be examined for fire hazard, and that even those which had been so examined did not carry on their labels a definite statement as to their degree of fire hazard.

The presence of ingredients believed to be toxic even if handled in gallon quantities was revealed in many of the secret trade preparations.

These were found in most cases to be accompanied by inadequate directions.

REFERENCES

1. *List of Inspected Gas, Oil, and Miscellaneous Appliances.* Published by Underwriters' Laboratories, 207 E. Ohio Street, Chicago, Jan., 1933, pp. 77–82.
2. *Methods for the Classification of the Hazards of Liquids.* Published by National Board of Fire Underwriters, 207 E. Ohio Street, Chicago.
3. *Danger in the Home Use of Flammable Fluids.* Bulletin published by State Fire Marshal of California, 433 California Street, San Francisco.
4. HAMILTON, ALICE. *Industrial Poisons in the United States.* New York: The Macmillan Company, 1925, pp. 400–409.
5. HAGGARD, H. W. The anesthetic and convulsant effects of gasoline vapor. *J. Pharmacol.* **16,** p. 401 (1920).
6. *Special Bulletin No. 150.* Published by the New York Department of Labor, New York City, Feb., 1927.

BOOKS AND PERIODICALS

NEW BOOKS

Science and Housecraft. By H. L. TUER. London: University of London Press, Ltd., 1933, pp. 132, 2s.9d.

A textbook for a science course for English girls from 11 to 15 years of age, one object of which is to provide correlation between their laboratory work and their training in housecraft. In her foreword Miss Burridge of the Manchester Training College of Domestic Economy testifies to the success of the syllabus in use.

Recipes You'll Enjoy. Prepared by JULIA LEE WRIGHT. Oakland, California: Safeway Stores Homemakers' Bureau, 1933, loose-leaf book, $1 plus 15 cents postage; additional 10 cents postage east of Denver.

A classified collection of recipes with blanks for additions by the owner.

What Shall I Eat? By EDITH M. BARBER. New York: The Macmillan Company, 1933, pp. 106, $1.75.

An amusing but well-informed and common-sensible book about "how to keep happy though healthy" and similar universally important dietary problems; by a well-known home economist with long experience as lecturer, newspaper writer, and consultant on food and nutrition.

How to Care for the Baby. By VIOLET KELWAY LIBBY. Washington, D. C.: The Plymouth Press, 1933, pp. 110, $1.

The mother of three healthy children has here combined her practical experience, the knowledge she has obtained by reading and study, and her skill as a professional writer to produce a well-arranged, clearly presented handbook for other young mothers. It covers the important phases of caring for a baby from the preparation of the layette, the method of lifting and carrying him, and the plan of his day, through what to do during weaning and teething and the special attention needed when he is sick or traveling; and does so in simple language and with practical common sense.

The Health School on Wheels. By J. MACE ANDRESS and I. H. GOLDBERGER. New York: Ginn and Company, 1933, pp. 399, $0.76.

Broadcasting Health. By J. MACE ANDRESS and I. H. GOLDBERGER. New York: Ginn and Company, 1933, pp. 401, $0.80.

Two books in the "Story Series in Health" which give, respectively, the essential facts of hygiene and those of nutrition in story form to win the interest of elementary school children. The senior author is editor of the school and health department in *Hygeia* and the junior author assistant director of health education in the public schools of New York City.

A Point Scale of Performance Tests. Vol. II. *The Process of Standardization.* By GRACE ARTHUR. New York: The

Commonwealth Fund, 1933, pp. 106, $1.50.

Whereas Volume I of this work on performance tests in psychological and psychiatric clinics (noted on page 770 of the JOURNAL for September 1930) was a manual for the use of trained workers in such clinics, the present one deals in detail with the methods used in developing the tests and the statistical basis on which their reliability rests.

The Family. A Study of Member Rôles. By KATHARINE DUPRE LUMPKIN. Chapel Hill: The University of North Carolina Press, 1933, pp. 184, $2.

A sociological study based on the case records of working-class clients of a family welfare society in New York. Though the fact that the majority of the parents were foreign born makes the findings representative of a selected group, the author's concept of the rôle played by different members in family relationships is to some extent applicable to all families regardless of education, residence, or nationality.

The Dynamics of Therapy in a Controlled Relationship. By JESSIE TAFT. New York: The Macmillan Company, 1933, 296, $2.50.

The main thesis in this discussion of the technics of psychological therapy is that misbehavior or inability to make a satisfactory adjustment is due to fear growing out of new situations or experiences. Psychological therapy is interpreted as a relationship consciously established by the worker with the client for the purpose of building up in the client the desire to solve his own problems with the help of the worker. The antidote to fear being "successful experience," the client will in time free himself of the worker's help.

Women in the Twentieth Century. By SOPHONISBA P. BRECKINRIDGE. New York: McGraw-Hill Book Company, Inc., 1933, pp. 364, $4.

A monograph in the series published under the direction of the President's Research Committee on Social Trends and presenting in more detail data summarized in its report. Deals with developments in the activities and relationships of women other than those incidental to family life and brings together, in systematic, convenient form, many hitherto scattered facts about women's progress in various occupations, professions, and forms of public service and about the work of women's organizations.

Angels and Amazons. By INEZ HAYNES IRWIN. Garden City, N. Y.: Doubleday, Doran & Company, Inc., 1933, pp. 531, $2.50.

The story of "a hundred years of American women" prepared in connection with the exhibits and conferences arranged for the Chicago Century of Progress by the National Council of Women. In the main part of the book the center of interest tends to be the fight for women's suffrage, but the fifty or sixty pages of the appendix are devoted to statements of the organization and aims of important associations in various fields of women's interest, among them the American Home Economics Association.

America Through Women's Eyes. Edited by MARY R. BEARD. New York: The Macmillan Company, 1933, pp. 558, $3.50.

What women have thought about and contributed to the development of American civilization in its various stages, is here told in their words or those of

their contemporaries. The book gives the impression that they have exerted a more constant, extensive, and directive influence, even in the spheres of politics and economics, than usually recognized.

Red Virtue. By ELLA WINTER. New York: Harcourt, Brace and Company, 1933, pp. 332, $3.

"Human relationships in the new Russia" as observed by the wife of Lincoln Steffens, an Englishwoman trained in economics and psychology who has spent considerable time in Russia, living with Russian families and studying morals, ethics, and family life under the communist régime. The subject appears to be presented with sympathy yet fairness, and certain sections should make stimulating reading for mature students of family relationships.

Vocations for Women. By ADAH PEIRCE. New York: The Macmillan Company, 1933, pp. 329, $2.

In this book for women in high school and lower college classes, information is brought together on the characteristics of the various vocations now open to women which have been called for during the author's experience in vocational guidance: contribution to society; evenness of advancement; relation to other vocations; required or desirable education, training, and personal qualifications; and financial and personal rewards. The occupations are classified under health services, sciences, business, art, and social vocations, the last including teaching and homemaking.

The Girl and Her Job. By ESTHER EBERSTADT BROOKE. New York: D. Appleton and Company, 1933, pp. 140, $1.

A readable little book in which the manager of a successful employment agency answers questions often asked by job-seeking college or high school graduates. The first part deals with choosing, training for, finding, and holding a job, while the second gives informal general descriptions of possibilities in four fields: finance; merchandising; advertising; and journalism, publishing, and publicity. In the introduction Otto H. Kahn states some commonsense fundamentals in a delightful way.

School Broadcasting. League of Nations Intellectual Cooperation Series. Paris: International Institute of Intellectual Cooperation, 1933, pp. 210, $2.

The results of an inquiry into the educational aspects of wireless broadcasting during which the International Institute of Intellectual Cooperation in cooperation with the International Broadcasting Union obtained information from educationists in 25 countries regarding broadcasting as a means of promoting the international spirit and as a medium of teaching both in schools and among adults. The findings indicate current opinion regarding the resources and limitations of wireless, the most satisfactory subjects, methods, and procedures for its use, and other topics of practical and theoretic interest. The report for the United States was prepared by a widely representative committee called by the U. S. Office of Education.

Social Changes in 1932. Edited by WILLIAM F. OGBURN. Chicago: The University of Chicago Press, 1933 [pp. 118], $1.

The annual survey prepared for the *American Journal of Sociology* and reprinted from its issue for May, 1933. Sections of special interest to home economists are perhaps those on the

family by Ernest R. Groves, on the child by Grace Abbott, and on women by Chase Going Woodhouse.

The State and Higher Education. By FRED J. KELLY and JOHN H. MCNEELY. New York: Carnegie Foundation for the Advancement of Teaching, 1933, pp. 282.

Economy in Higher Education. By DAVID S. HILL and FRED J. KELLY. New York: Carnegie Foundation for the Advancement of Teaching, 1933, pp. 127.

Reports of studies made by or in cooperation with the U. S. Office of Education and published by the Carnegie Foundation for the Advancement of Teaching in a small edition.

The first of the two volumes includes three studies: one dealing with control and curricular offerings of colleges and universities in ten selected states, one with the trend toward unified control, and the last with data from all states on such basic factors as population, resources, financial receipts, student enrollment, and student migration.

In the second volume are given a discussion of the principles underlying the business administration of schools and colleges and another of the administrative practices by which such economies may be effected.

The Rural Community and Social Case Work. By JOSEPHINE C. BROWN. New York: Family Welfare Association of America, 1933, pp. 165, $1.

Concrete, well-grounded suggestions not only for immediate steps but for a long-time program for the development of social work activities in our rural communities. Perhaps of special significance in connection with the increasing interest in county welfare units. Includes valuable help to home demonstration agents and other home economists wishing to establish rapport with rural families.

Social Problems and Social Processes. Selected papers from The Proceedings of the American Sociological Society, 1932. Edited by EMORY S. BOGARDUS. Chicago: The University of Chicago Press, 1933, pp. 154, $1.50.

Somewhat technical presentations of the interrelations of social problems and processes as they appear in several different regions and under different personal-racial conditions, together with discussions of theories of social processes.

Annual Review of Biochemistry. Edited by JAMES MURRAY LUCK. Vol. II. Stanford University, California: Stanford University Press, 1933, pp. 564, $5.

The second in a proposed series of annual résumés of progress in different fields of biochemistry, the first of which was noted in October, 1932. Includes sections on several phases of human metabolism and nutrition.

The Heroic Age of Science. By WILLIAM ARTHUR HEIDEL. Baltimore: The Williams & Wilkins Company, 1933, pp. 203, $2.50.

"The conceptions, ideals, and methods of science among the ancient Greeks" presented by a well-known Greek scholar. He holds that they not only ventured boldly in untried fields of human knowledge and thought, but that in the use of observation and induction, classification, analogy, and even experimentation modern scientists have merely developed methods whose principles were laid down in the Greek works here described. A thought-provoking thesis for those concerned with the development of scientific method.

ABSTRACTS

CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

Popularity in preschool children: some related factors and a technique for its measurement, HELEN L. KOCH. *Child Development* **4**, No. 2 (1933, June) pp. 164–175.

Girls tend to prefer girls and boys boys among four-year-old nursery school children. Tendency to attack, to offer no resistance when attacked, to dawdle, to refuse, to ignore, and to play alone are associated with unpopularity. Compliance, respect for property rights, a tendency to ask for commendation, and a tendency to tattle showed positive relationship to popularity. Brighter and older children seemed more popular The tendency to smile, to indulge in group play, and to be independent of adult affection were unrelated to popularity, as was length of school attendance.

A study of outdoor play, appetite, and afternoon sleep of young children, RUTH STAPLES and ANGELINE C. ANDERSON. *Child Development* **4**, No. 2 (1933, June) pp. 191–195.

Daily records for four two-month periods showed for 34 preschool children no relationship between the amount of morning outdoor play and the noon food consumption or between the noon food consumption and the afternoon nap.

Training our little savages, MYRTLE M. ELDRED. *Child Welfare* **27**, No. 10 (1933, June) pp. 513–516+.

Methods of obtaining wise discipline with babies before they can be reasoned with.

Case work skills and fundamental human needs, FERN LOWRY. *Family* **14** (1933, July) pp. 159–163.

It is shown how the case worker helps individuals to meet industrial problems of re-training, adjustments to lowered income, protection of children against hurts due to changed family conditions, and psychological situations, all of which affect the mental health and personal integrity of the client.

Sex education, THURMAN B. RICE. *Hygeia* **11**, No. 7 and 8 (1933, July and Aug.).

I. Ideals and purposes, pp. 585–588.

The first two of a series of articles by the professor of preventive medicine at Indiana University, written for parents who wish to learn how to teach their children.

II. Reproductions in the Plant and Animal Kingdoms, pp. 722–726.

Facts about the reproduction of plants and animals which are helpful in teaching children about sex.

An experimental study of persistence, T. H. HOWELLS. *J. Abnorm. & Soc. Psychol.* **28** (1933, April–June) pp. 14–29.

Ingenious tests of persistence given to college students seem to test ability to persist in the face of discomfort in order to achieve success. These tests did not correlate with intelligence but when combined with intelligence scores raised the predictability of grades to 0.64.

A study of graduate women's reactions and opinions on some modern social attitudes and practices, EUNICE ACHESON. *J. Abnorm. & Soc. Psychol.* **28** (1933, April-June) pp. 42–63.

The author's investigations indicate that older women tend to change their attitudes less on controversial questions such as smoking for women, petting, than

younger women, the group from 30 to 34 years old showing the most readiness to change on the questions checked.

The interview as a research and teaching device, GEORGE W. HARTMEN. *J. Appl. Psychol.* **17** (1933, April) pp. 205–211.

A plea for the extended use of the interview as a research measure, safeguarded, of course, by the necessary precautions for accuracy. A good list of references is included.

Mental and physical traits of identical twins reared apart, H. H. NEWMAN. *J. Hered.* **24** (1933, May) pp. 209–214.

Twins 13½ years old who have been reared apart since infancy show practically no physical or intellectual differences but more temperamental differences as measured by tests.

The individual and his family relationships. Some newer concepts in social case work, GRACE MARCUS. *Ment. Hyg.* **17**, No. 3 (1933, July) pp. 353–368.

A discussion of how the individual with a problem may be helped if the person doing the interviewing has an understanding of himself, of the client's needs, and of the technics which may be used to help the individual understand himself. Specific instances are given as illustrations.

Your child's need of security, CAROLINE B. ZACHRY. *Parents' Mag.* **8**, No. 9 (1933, Sept.) pp. 15, 62, 63.

The importance of childhood security for attaining normal adulthood and methods by which children may be handled to increase their feeling of belonging to their family and to the world.

Is your child ready for school? FLORENCE B. SHERBON. *Parents' Mag.* **8**, No. 9 (1933, Sept.) pp. 19, 44, 45.

Very specific suggestions about what an average five-year-old may be expected to do both for himself and in cooperation with others.

A method of measuring the sustained attention of preschool children, HELEN S. SHACTER. *Ped. Sem. & J. Genetic Psychol.* **42** (1933, June) pp. 339–371.

Girls showed a longer period of sustained attention than boys with the materials used, but there was practically no difference between three-, four-, or five-year-old children. The range of attention was between eight to twelve minutes, depending on the complexity of the activity.

An experimental study of the social behavior stimulated in young children by certain play materials, RUTH UPDEGRAFF and ESTHER K. HERBST. *Ped. Sem. & J. Genetic Psychol.* **42** (1933, June) pp. 372–391.

Children two and three years old were paired eight times with one other child in a room where only one kind of play material, either clay or blocks, was available. Blocks served to encourage mutual activity, but clay encouraged more imitation. Social and cooperative play occurred more frequently with the clay, while non-social and non-cooperative behavior had a higher frequency during play with blocks.

Two-year-olds paid less attention to their partners than three-year-olds. Older children made more verbal suggestions, accepted more suggestions positively, held more conversation, were more sociable and more cooperative.

E. McG.

THE HOUSE, ITS EQUIPMENT AND MANAGEMENT

Household kitchen planning. *Am. Architect* **143,** No. 2618 (1933, July) pp. 91–100.

A summary of modern principles and practices in kitchen planning, with plans and working drawings, presented for architects but of interest to others.

The modern houses of the Century of Progress Exposition. *Architectural Forum* **59,** No. 1 (1933, July) pp. 51–62.

Probably the best presentation of the exhibit of small houses at the Century of Progress, with photographs, floor plans, and brief descriptions.

Housing—where, when and how? HENRY WRIGHT. *Architecture* **68,** No. 1 (1933, July) Part I, pp. 1–32; Part II, No. 2 (Aug.) pp. 79–110.

A manual of housing, giving a complete and authoritative review of the urban housing practices which have contributed to the blighted areas found in most cities and of the recent advances made through such planned communities as Sunnyside, Radburn, and Chatham Village; and presenting the principles upon which the author believes further developments in housing must be built.

Automatic anthracite. *Bus. Week, No.* 196 (1933, June 7) pp. 7–8.

A more detailed description of the newly developed "super-furnace" which "shovels its own coal, tends its own drafts, shakes its own grates, empties its own ashes; which heats the house in winter and cools it in summer; which humidifies and de-humidifies and cleans the air; which provides hot water the year round and circulates ice water in summer; and runs the refrigerator in the kitchen and the laundry clothes dryer," all at an average consumption of 1½ tons of chestnut anthracite a month for an 11-room, 3-bath house.

Iceman's answer. *Bus. Week,* No. 198 (1933, June 17) p. 12.

The new ice box here pictured and described has a thermostatically controlled 20-watt motor fan mounted in the partition between the ice chamber and the food compartment, which operates when the temperature reaches 49° to accelerate circulation until it is reduced to 46°. With as little as 10 pounds of ice the fan keeps food safe. The cost is low and upkeep negligible.

An experimental house, H. D. EBERLEIN. *Architectural Forum* **58,** No. 6 (1933, June) pp. 480–484.

Description of a house in Merion, Pennsylvania, with several distinctive labor-saving devices including a small "L" shaped kitchen equipped with a thoroughly insulated anthracite-burning range which in constant use consumes about one ton of pea coal a year. The furnace, entirely automatic, operates winter and summer in conjunction with the air conditioning apparatus, supplies hot water, controls refrigeration, and heats the laundry dryer. The air conditioner automatically filters, humidifies, and circulates air of a constant temperature.

Vom hauswirtschaftlichen Dienstpflichtjahr [The compulsory year of domestic service] BERTA HINDENBERG-DELBRÜCK. *Deutsche Hausfrau* **18,** No. 7 (1933, July 1) pp. 95–98.

The National Federation of German Housewives' Associations has submitted a plan to the government which calls for a year's compulsory domestic service for

all girls. Originally household arts instruction in schools formed part of the plan, but this is considered impossible in the present economic stringency. During the service year girls would live in private households, supplementing rather than displacing household employees. The aim is to prepare girls for their highest national duty, that of homemaking, and to emphasize the social character of the work; the girls would assemble weekly for lectures and talks, and at the end of the year pass a test. Among the many problems to be worked out are the kind and amount of activities to be performed and the finding of suitable homes.

Wringmaschine oder hydraulische Wäschepresse? [Wringer or hydraulic laundry press?] *Deutsche Hausfrau* **18,** No. 7 (1933, July 1) p. 105.

Where electric washing machines are out of the question, hydraulic presses are recommended instead of hand wringers. In these presses use is made of the pressure in water pipes: the hydraulic press is attached to a faucet by a hose, the faucet is opened, and in a few minutes the clothes are pressed dry. As only a small quantity of water is used, the press is very economical to operate.

Low temperature radiant heating, L. W. SCHAD. *Elec. Eng.* **52,** No. 7 (1933, July) pp. 467–471.

A description is given of experiments in the heating of a small room by controlled radiation from electrically heated panels in the walls from which a practical method of predicting relative comfort for various combinations of wall and air temperatures has been determined. It is claimed that low-temperature radiant heating in combination with reversed refrigeration would so lower the operating cost of electric heating as to allow it to compete with other fuels.

Light for effective seeing, L. V. JAMES. *Elec. Eng.* **52,** No. 8 (1933, Aug.) pp. 543–546.

A non-technical explanation of the fundamental conceptions and relations underlying the application of lighting for effective seeing. Illustrated with tables and diagrams useful in any study of illumination and intensity.

How strong is a woman? M. L. CARR. *Food Ind.* **5,** No. 3 (1933, March) pp. 86–87.

How tight are screw caps? No. 4 (April) pp. 138–140.

When the screw cap sticks how does a woman open the container? No. 5 (May) pp. 170–171, 185.

Reports are here given of an exhaustive investigation made by the Pittsburgh Testing Laboratories into the mechanical force which the consumer must exert to open two types of screw caps used on food containers, namely the "rolled on," in which the threads are rolled into the cap over the container threads as a matrix, and the "preformed," in which the threads are preformed and must fit the preformed threads of the container, and also two cap sizes, 28 mm. and 63 mm. Results show that there is a definite limit to the twisting effort most women can exert; that many screw caps on the market require effort beyond this limit; that women have adopted various rough- and-ready methods to aid in opening screw caps but that even by these aids not all caps encountered can be removed; that rolled on caps presented fewer difficulties than preformed caps; finally, that the design of a screw cap is an important factor in ease of opening, and by choice of design trouble from sticking caps can be greatly reduced.

Decorating in the contemporary manner, HELEN KOUES. *Good Housekeeping*

97, No. 2 (1933, Aug.) pp. 52–57, 128.

The kitchen and laundry, No.2, pp. 88–89.

Good Housekeeping Stran-Steel House, No. 3 (Sept.) pp. 52–57, 102.

Descriptions with illustrations, some in color, of the furnishings and equipment used in the Good Housekeeping Stran-Steel House shown at the Century of Progress, with listings of the cooperating firms.

Die Minderbewertung hauswirtschaftlicher Arbeit im bäuerlichen Betrieb und ihre Folgen [The inferior position of domestic work on the farm and its consequences] MARIA WIRTINGER. *Hauswirtschaftliche Jahrbücher* **6,** No. 2 (1933, May) pp. 53–55.

The chief cause of the misery and overwork of the rural housewife is not merely lack of technical conveniences but rather the indifference and contempt for housework on the part of husbands and sons, which takes the courage from the wife and makes the daughters unwilling to marry farmers. The rural housewife has become the handmaiden of everyone, instead of being the equal of her husband and the manager of the household. In order to improve the situation the study of home management should be considered as part of the field of agricultural economics and students in agricultural schools should be made to realize its importance for rural economy.

Application of vinyl resins, J. G. DAVIDSON and H. B. MCCLURE. *Ind. & Eng. Chem.* **25,** No. 6 (1933, June) pp. 645–652.

This technical paper describes a new and improved variety of vinyl resin trade-named "Vinylite" which is colorless, though it may be colored with dyes or pigments, odorless, tasteless, noninflammable; it may be used to impregnate paper and textiles which can then be applied to rigid surfaces by hot pressing, or may be used as lacquer. Very large objects such as doors and wall panels can be easily and successfully molded of it. A three-room apartment is described and pictured in color in which almost everything—walls, doors, floor tile, translucent windows, baseboards, sills, lighting fixtures, towel racks, dishes, ornaments, lamp shades—are made of Vinylite. The materials from which this resin is derived are considered inexhaustible, and its adaptability and cost indicate a wide acceptance.

A new synthetic stone, H. C. PEFFER, R. L. HARRISON, and R. N. SHREVE. *Ind. & Eng. Chem.* **25,** No. 7 (1933, July) pp. 719–722.

Description of the procedure, manufacture, and properties of rostone, a new synthetic stone made from natural shales and slates combined with limestone. The wide availability of the raw materials, the relatively simple and inexpensive chemical processing and fabrication, the possibility of incorporating fillers and coloring materials to produce varied and attractive commercial products point to its wide use as an economical decorative and structural material.

Commercial standardization services of the Bureau of Standards, L. J. BRIGGS. *Ind. Stand.* **4,** No. 8 (1933, Aug.) pp. 123–130.

The work and accomplishments of the division of simplified practice, specifications, and trade standards and the building code and safety standards sections of the U. S. Bureau of Standards are summarized by the director at the time when their activities are about to be taken over by the American Standards Association.

How to keep the house beautiful, TALITHA HANKE. *J. Agr. & Horticulture* [Quebec] **37,** No. 2 (1933, Aug. 12) pp. 15, 24–25.

Sensible suggestions with regard to the essentials in furnishings and equipment and care of the small home.

Ländliche Hausfrauenarbeit in der Provinz Brandenburg [Activities of rural housewives in the province of Brandenburg] DR. M. WOLFF. *Land und Frau* **17,** No. 20 (1933, May 20) pp. 324–325.

At the beginning of the century agricultural economics was concerned with production alone and paid no attention to home management. The first rural housewives' association was organized in Brandenburg in 1913. By 1921 there were only 21 such associations, but now there are 300 associations with 12,000 members from all classes of the rural population. These associations maintain many extension workers and several highly specialized home economics experts. Meetings, courses, and exhibits form part of the activities, and a periodical is published. The associations are connected with the provincial Chamber of Agricultural Economics which has a committee on home management whose members are appointed by the housewives' associations. A network of household arts schools, established by the Chamber of Agricultural Economics upon the initiative of the housewives' organizations, covers the province. The system of household apprentices is widely adopted.

L. H. V. und weiblicher Arbeitsdienst in den Siedlungen (Rural women's associations and women's voluntary labor service in the new settlements] ANNE SPRENGEL. *Land und Frau* **17,** Nos. 25 and 26 (1933, June 24 and July 1) pp. 411–412, and 428–429.

The attempt of the German government to bring unemployed city families back to the land has resulted in an urgent need for aid and instruction of the housewives who are unaccustomed to rural conditions. Under the auspices of rural women's organizations a system of voluntary labor service for young women has been established with the purpose of helping with the household problems of these new settlers. Young women from all parts of the country, mostly with a rural background, have enlisted in the service and form working units of from 10 to 25 members who live in camps near the new settlements, under the leadership of teachers trained in agricultural economics. A major part of the work so far has consisted in establishing gardens and sewing and mending. The groups also contribute to the cultural life of the settlement by arranging evening meetings given over to recitation, folk dancing, and singing.

Das Tagewerk der Hochachtbäuerin [A day's work for the wife of the farmer at Hochacht] A. HACKEMANN. *Land und Frau* **17,** No. 26 (1933, July 1) pp. 427–428.

The life of the family of the Hochacht farm is typical of that of most farmers in the mountainous regions in Germany. At the age of 37 the wife has borne 16 children and is never quite well. She rises at 4 o'clock in the morning and milks the cows and helps in the field, besides doing all the housework; no hired help can be thought of. Not till after 9 p.m. is there time for rest. The writer stresses the need for improvement in the life of peasant women.

H. R. H. AND M. C. H.

TEXTILES AND CLOTHING

Contributed by the staff of the Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture

Raw silk and throwing, PENRHYN WILSON. *Am. Dyestuff Rept'r* **22,** No. 9 (1933, April 24) pp. 269–271.

This paper opens with an excellent popular presentation of silk culture and its manufacture into yarn for hosiery, briefly tracing the history of silk from its discovery and weaving by the child bride of a Chinese emperor. The inherent unevenness in raw silk is shown often to create unsightly horizontal bands in finished hosiery and to account for more than half of the seconds in sheer weights. However, such bands practically guarantee that the product is silk, since rayon manufacturers would have deliberately to create uneven filaments to imitate this effect.—O. H.

Problems of the proofing industry, S. G. BYAM. *Am. Dyestuff Rept'r* **22,** No. 12 (1933, June 5) pp. 358–362.

About 75,000,000 yards of rubberized fabrics were used in the United States in 1929. Raincoat fabrics form the largest class; at present too many types are made for economical manufacture. Double texture raincoats have taken precedence over single texture. The latter are finished with corn and potato starch, mica, shellac, and casein water varnishes, oil varnish, and nitrocellulose lacquers. It is possible to make a rubberized fabric that is porous enough to breathe and yet shed water readily by properly impregnating a napped or filled fabric with rubber or by incorporating flock in a rubber cement. Rubber textiles imitating leather for sport and work coats wear well but lack pliability. "Elephantide," made by calendering a film of rubber on the fibers of a napped fabric, is inclined to peel but is very pliable. The merits of the synthetic rubber "Duprene" are discussed.—O. H.

Odd things in leather, A. ROGERS. *Am. Dyestuff Rept'r* **22,** No. 13 (1933, June 19) pp. 386–393.

Ninety-five per cent of our sole leather is vegetable tanned, chiefly with quebracho extract. Chrome-tanned leather is used for uppers; it holds its shape better than vegetable-tanned leather and wears longer. Goatskin and kid are used for uppers on women's shoes; calf and side leather for men's. Kangaroo is used for both, and wears well; shark leather wears excellently. Until recently patent leather was degreased before varnishing and cracked as a result. At present it is made on non-degreased skin, using sulfonated oils. Only one coat of varnish is required as compared with four or five formerly. Rabbit leather is often passed off as lizard. Suede leathers crack because nothing can be put on the leather to hold the color without destroying the suede effect. The first split of split leather is more durable than grain leather.—O. H.

The application of spectrophotometric color analysis to dyeing, ORRIN W. PINEO. *Am. Dyestuff Rept'r* **22,** No. 16 (1933, July 31) pp. 470–474.

The photo-electric spectrophotometer is of particular value in color specification, since a spectrophotometric curve replaces sample matching and tolerances may be defined numerically. In dyeing, the resultant effect of combining two dyestuffs on a cloth may be predicted in advance by integrating the curves of each dye, and changes in whiteness during processing of undyed goods may also be measured.

The Hardy photo-electric color analyzer has been modified by Pineo and Hardy at Massachusetts Institute of Technology under a Textile Foundation fellowship, to give better reflectance measurements with textiles than the original instrument. Pictures of the new instrument are included.—O. H.

The compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials, HERBERT F. SCHIEFER. *Bur. Stand. J. Research* **10,** No. 6 (1933, June) pp. 705–713.

With this instrument the thickness of textiles can be measured at a given pressure, and the change in thickness with increasing or decreasing pressure can also be determined, and from these the compressibility and compressional resilience can be computed. The data given for various textiles such as rugs, blankets, and silk fabrics indicate that compressibility depends mainly on the structure of the specimen and compressional resilience upon both the structure and the kind of material.—M. B. H.

Jubilee Edition, 1883–1933, *Canadian Textile J.* **50,** No. 13 (1933, June 30).

This 50-year jubilee number is given over to articles tracing the development of Canada's textile industry and contains résumés of the silk, rayon, knit goods, and clothing and dress trades as well as more detailed treatment of the cotton and woolen and worsted industries. Pictures of the textile research laboratories of the Ontario Research Foundation are included.—O. H.

Science in retail merchandising, E. H. HARVEY. *Chemist* **10,** No. 2 (1933, Feb.) pp. 59–68.

A detailed description is given of the work done in the Montgomery Ward Company's testing laboratories in which one room is set aside for textiles. The usual routine tests involve microscopic identification of fibers and type of weave, weight per square yard, thread count, tensile strength, tub fastness, sun fastness shrinkage, and quantitative estimation of fibers. When appropriate, tests are made for waterproof and mothproof qualities, absorbency, metallic weighting, abrasion resistance, mildew resistance, twist of yarns, degree of mercerization, identification of dyes, flexing, and percentage of sizing; analyses of hosiery are also made and tests called for by customers' complaints. Compression tests are made on furniture and mattresses and efficiency tests on vacuum cleaners, washing machines, and sewing machines. In buying, specifications are given great consideration. New methods of analysis are developed in many cases, and frequently, where commodities on the market are unsatisfactory, detailed plans for manufacture of new types of commodities are worked out.—O. H.

These factors control shrinkage of all-wool blankets, G. L. GUNDEL. *Hosp. Mg't* **35,** No. 4 (1933, April) pp. 29–31.

The charted results of tests using proper and improper procedures show extreme shrinkage differences. Since shrinkage occurs in direct relation to the speed of the washing machine, this should be as low as possible. A very short time in the washer is recommended, not more than two minutes in the suds and two one-minute rinses, with the temperature kept constant and not exceeding 90°F. A good neutral laundry soap used in sufficient quantity to sustain a heavy foam throughout entire washing minimizes shrinkage. As much water should be used as machine will hold and the smallest number of blankets consistent

with economical operation. The foam should be raised before the blankets are put in the suds and the machine stationary when filled and drained. The blankets may then be centrifuged and finally dried at a temperature not over 150°F.—G. M. A.

Application of infra-red photography to textiles, P. W. CUNLIFFE. *J. Soc. Dyers & Colourists* **49,** No. 3 (1933, March) pp. 73–76.

Some objects which appear dark to the eye reflect sufficient infra-red rays to appear light by infra-red photography. This differential reflection can be used to detect faults in dark-colored materials which are difficult to investigate visually. A second possible use of infra-red photography is the selection of dyestuffs for dark cloths which are to be as cool as possible in summer. Infra-red rays are the heat rays, and a dyeing which reflects them and hence photographs as a light shade should give a cooler cloth.—M.B.H.

The deconvolution of cotton hairs as a test of the mercerization process: the "convolution count," MARY A. CALVERT and DOUGLAS A. CLIBBENS. *J. Textile Institute* **24,** No. 6 (1933, June) pp. T233–T254.

Because alkali used in mercerizing cotton changes the fibers from flat, twisted, ribbon-like forms to more rounded, untwisted cylinders or rods, mercerized and unmercerized cotton material can be distinguished by these changes. In one such method a large number of cotton hairs to be tested are cut into fragments 0.2 mm. long and mounted in liquid paraffin on a microscope slide, and the number free from twists or convolutions (the mercerized fibers) are counted. The result, expressed as percentage, is called the convolution count. The measurement can be performed quickly, requires only a small sample, and gives a ready means of detecting mercerization. It also permits examination of the uniformity of mercerization by a given treatment.—M. S. F.

Bactericidal studies of low-temperature washing methods, GEORGE H. JOHNSON. *Laundryowners Nat'l Assoc'n Service Bull.* **2,** No. 19 (1933, Jan. 18) pp. 12.

The American Institute of Laundering has conducted studies upon the bactericidal efficiency of low-temperature washing methods. When a multiple suds formula of 4 to 5 successive suds was followed by 4 to 5 soft water rinses and a sour, all at 95° F., the bacterial count showed an average reduction of 99.9 per cent. Ironing or pressing destroyed the remaining bacteria. The same observations were made by 5 laboratories working independently with 11 changes of water for full loads and 9 for under loads. The average reduction due to the use of sodium silicofluoride as a sour in the last rinse was less than 2 per cent of the bacteria originally present before washing.—K. M. D.

Transparent textile cloth. *Melliand Textile M'thly* **5,** Nos. 3–4 (1933, June–July) p. 107.

A transparent textile material under the name "Luvet" is being placed on the market by the Chicopee Sales Corporation of Chicopee Falls, Massachusetts. The basis of the cloth is a yarn made from Cellophane. The material has body, pliability, strength, resistance to tear, and can be made fireproof or waterproof. The uses include upholstery fabrics, draperies, lamps, shoes, handbags, millinery, and apparel accessories. Interesting effects are obtained in combination with rayon.—K. M. D.

Wearing qualities of synthetic yarn lining fabrics and methods used in testing, C. G. SIMON. *Melliand Textile M'thly* **5,** Nos. 3–4 (1933, June–July) pp. 108–110.

The lining fabrics tested showed no correlation between high tensile strength and resistance to wear, but there was a definite relation between elongation at break and wearing quality. When the elongation was above 30 per cent, the wearing quality was very good; below 20 per cent elongation there was always poor resistance to wear. High thread count often lowered the wearing quality when there was close packing and overlapping of threads, and plain weave was not always superior to other weaves. Overstretching in dyeing and finishing processes proved detrimental to the wear. The wearing quality of all-acetate was in general superior to the acetate-warp viscose-filled construction, which was in turn superior to viscose.—K. M. D.

Simplified apparatus for determining the thermal insulating value of fabrics, H. S. SCHENKER. *Melliand Textile M'thly* **5,** Nos. 3–4 (1933, June–July) pp. 115–117.

The method adopted by the author involved the basic principles of the thermos jug assembly developed at the U. S. Bureau of Standards. The modifications include the installation of a fan blower and the substitution of self-starting electric clocks for stop watches. In order to compensate for small variations in temperature, a correction was applied to the formula used for the calculation of results. Moving air was found to magnify the differences between similar fabrics.—K. M. D.

The effect of sunlight and other factors on the strength and color of cotton fabrics, MARY A. GRIMES. *Tex. Agr. Exp't Sta. Bull.* No. 474 (1933, Feb.) pp. 56.

The study here reported showed that time was by far the most important factor in aging cotton fabrics by exposure, variations in temperature affecting the rate proportionally little and changes in relative humidity still less. In the 22 fabrics studied, the materials had lost from one-fifth to one-half their original strength after 375 hours of exposure, the bleached pieces losing almost twice as much strength as the unbleached. Percentage take-up and ply were the only structural factors that had significant effects upon change in strength after exposure. Dark colors were in general less weakened than light colors. To lose the least strength upon exposure to sunlight a cotton fabric should be composed of unbleached, mercerized, coarse, hard-twisted yarns.—M. B. H.

The flexometer, an instrument for evaluating the flexural properties of cloth and similar materials, H. F. SCHIEFER. *Textile Research* **3,** No. 8 (1933, June) pp. 388–403.

An instrument is described with which the flexural work, flexural resilience, and flexural hysteresis of cloth, paper, and similar materials can be evaluated. A pair of test specimens are mounted in opposite angles formed by two vertical intersecting plates, one of which is fixed and the other movable on a spindle. The work done in folding the specimens to various angles between the plates, the work recovered when they are allowed to unfold, and the work lost give the measure, respectively, of flexural work, flexural resilience, and flexural hysteresis. These quantities are related to the stiffness and creasing quality of cloth and affect the handle or feel and the drape of fabrics. —M. B. H.

MISCELLANY

The Medical and Professional Woman's Journal. Beginning with June 1933 the former *Medical Woman's Journal* appeared under this new title and with enlarged size and scope in the hope of serving dietitians, dentists, and public health workers as well as physicians. Most of the 28 contributing editors for the new food and nutrition department are well-known members of the American Home Economics Association. The address is 2334 Upland Place, Cincinnati, Ohio.

Children's Posture. "Good Posture in the Little Child" is the title of a helpful, practical bulletin issued by the U. S. Department of Labor as Children's Bureau Publication No. 219.

Studies in Child Welfare. Recent additions to the reports of studies made in the Iowa Child Welfare Research Station and published in the new series from the University of Iowa include the following bulletins: No. 241, "Researches in Parent Education"; No. 243, "The Measurement of Musical Development"; No. 251, "Learning in Preschool and Orphanage Children"; No. 253, "Bladder Control in Infancy and Early Childhood"; No. 255, "The Companionships of Preschool Children."

Association of Land-Grant Colleges and Universities. The Proceedings of the annual convention of November, 1932, included a memorial to Martha Van Rensselaer by Helen W. Atwater which was prepared and inserted in accordance with a resolution passed by the home economics section. Much material of interest to home economics is found in the fifty or more pages devoted to the papers and actions of that section and in the report of the section on agriculture which deals with resident teaching, experiment station work, and extension.

Film Strips from the U. S. Department of Agriculture. Prices for the Department's films will remain at the same low levels until June 30, 1934, ranging from 14 to 85 cents each, the majority of the 163 series selling for 28 and 35 cents each. A list of subjects and instructions for purchasing may be obtained from the Office of Cooperative Extension Work, U. S. Department of Agriculture, Washington, D. C.

Social Welfare Work. The Family Welfare Association has brought together in an attractive booklet entitled "Through the Ages" quotations on the philosophy of justice toward those in trouble by writers of all ages, from the Egyptian Book of the Dead of 4500 B.C. through the Bible and the church fathers to our own contemporaries. Copies may be obtained from the Family Welfare Association of America, 130 East 22nd Street, New York City, for 35 cents.

"What to Read About Radio." A reading list on radio, with an introduction in the form of an imaginary interview between the director of the National Advisory Committee on Radio in Education and a "successful young citizen," has been prepared by the director, Levering Tyson, and published in pamphlet form by the University of Chicago Press. The 30-page booklet answers many of the questions that the intelligent listener-in often feels inclined to ask about radio.

NEWS NOTES

GENERAL

American Country Life Association. The sixteenth annual conference was held at the Virginia Polytechnic Institute August 1 to 4 in cooperation with the Virginia Institute of Rural Affairs. The discussions, both at general meetings and at round tables, centered around national policies affecting rural conditions, including education, health and welfare, and rural life as well as more distinctly economic aspects. The Virginia Homemakers Association met during the conference.

National Congress of Parents and Teachers. At the semi-annual meeting of the Board of Managers in Washington, D. C., September 18 to 21, special emphasis was placed on the responsibility of parent-teacher associations in maintaining school standards during these days of un-economic economy, and the importance of protecting children against malnutrition and families against the breakdown of morale that so often follows unemployment.

National Safety Congress. At the twenty-second annual congress and exposition arranged by the National Safety Council at the Stevens Hotel, Chicago, October 2 to 6, the program for the home safety committee included a report of the national home safety survey by R. L. Forney, a paper on safety in the kitchen by Mrs. Mary Koll Heiner of the University of Chicago, and one on safety in the parent-education program by Mary Murphy of the Elizabeth McCormick Memorial Fund. The child education committee was given demonstrations of safety at home, at school, and out of doors by Chicago representatives of the Girl Scouts, public schools, and Boy Scouts.

National Thrift Week. The National Thrift Committee announces that January 17 to 23 has been designated for National Thrift Week in 1934. Detailed plans and suggestions may be obtained from the Committee, 347 Madison Avenue, New York City.

Research on Slums and Housing Policy. The Phelps-Stokes Fund has announced a comprehensive and intensive study of slums and blighted areas, their causes, prevention, elimination, and conversion for proper housing or other uses. While the investigation will be undertaken with particular reference to the conditions and needs of New York City, the experience of other cities, both in America and abroad, will be considered and analyzed for purposes of comparison. Dr. James Ford, known to home economists as former director of Better Homes in America, will be director of the investigation, and associated with him will be George N. Thompson, until recently assistant chief of the division of building and housing, U. S. Bureau of Standards. Headquarters are at 101 Park Avenue, New York City.

Electrical Association for Women. In the eight years of its existence this English organization of professional women has reached a membership of over 5,000 with 31 branches in different parts of the country. Its object is to promote the dissemination of electrical

knowledge among housewives, teachers, demonstrators, and countrywomen; it aims to serve no commercial object but to represent the consumer's point of view. To further professional standing among women in electrical work, examinations for a diploma in electrical housecraft are given. Headquarters have been established combining a club room for members together with an electrical housecraft school equipped for lectures and demonstrations and provided with the latest types of electrical domestic apparatus.

German Federation of Rural Housewives' Associations. At its annual meeting in May the Association decided in the future to seek closer alliance with farmers' organizations rather than with women's associations. Representatives of the National Socialist government, speaking at the convention, promised active support in the work of improving rural living conditions and expressed approval of efforts to organize rural housewives.

GEORGIA

Extension Service. The State Short Course for home demonstration club members and 4-H club girls at the University of Georgia in July attracted 704 farm women and girls. From the opening organ recital until the closing candle lighting ceremony, the week's program was a full one with the 4-H club girls' demonstration team day, the state clothing demonstration revue, the state home demonstration council meeting, the University of Georgia Women's Club's reception in Memorial Hall, and Chancellor's Day as high spots. One visitor was so impressed with the demonstration of attractive dresses made of sugar bags, chicken feed sacks, cotton sheeting, and various cotton materials, that he contributed $200 toward repeating it in Atlanta at a conference of some 1,500 Georgia farmers and agricultural workers which Secretary Wallace attended.

One of the finest results of the week was the development of the Farm Home Program in 1934 which will continue to emphasize the live-at-home program with special reference to efficient utilization of all resources of the farm and home, a plan to supplement the farm income by home industries, maintaining the morale of the farm family and the community, fostering relief by making others self-supporting, promoting and encouraging such activities among farm young people as will result in a satisfying farm home life and community leadership.

Following farm and home surveys by home demonstration agents, Director Campbell sponsored 16 sectional meetings in September for county agricultural and home demonstration agents to plan the year's program and urge cotton reduction. County committeemen and representatives from the county agricultural boards and home demonstration councils attended.

Mrs. Leila R. Mize, Willie Vie Dowdy, and Rosa McGee attended the Century of Progress Exposition.

Vocational Home Economics. Eighty-six teachers of vocational home economics attended the conference from July 3 to 14 at the University of Georgia arranged by the division of vocational education, the Federal Board for Vocational Education, and Dr. J. S. Stewart, director of the summer school. Edith M. Thomas of the Federal Board conducted two series of daily conferences on "Methods of Teaching Home and Family Relationships" and "Methods of Teaching Adults in Homemaking Classes." Epsie Campbell, state supervisor of home economics, Elizabeth

Mayes, assistant supervisor, Martha McAlpine, special supervisor of adult education in homemaking, Mrs. Pearl C. Moon, Mrs. Margaret H. Blair, and Erna E. Proctor of the University of Georgia also led discussions.

Student Clubs. The Lanier and Miller High School Clubs sent representatives to the Milwaukee meeting of the American Home Economics Association. The four girls and the teachers who accompanied them had such a delightful time and were so favorably impressed that they came back determined that their slogan for the coming year should be: "On to New York in 1934!" The group visited the Century of Progress en route.

ILLINOIS

Illinois Home Economics Association. The state conference in Chicago on October 20 and 21 was held early this year so that teachers who wished might attend the Century of Progress.

James Millikin University. Elizabeth Wiley is the new assistant in the home economics department. She taught last year in the Alabama College for Women.

Illinois State Normal University. Josephine Ross, assistant professor of home economics, studied at the University of Wisconsin during the summer.

University of Illinois. Recent appointees on the home economics staff are Helen Eades, as associate in costume design; Inez Prudent, assistant in institution management and consulting dietitian of the University Hospital; and Mary Holton, assistant in foods.

Helen McCullough, a former member of the faculty, is directing handicrafts among the Indians in New Mexico with headquarters at Santa Fe.

Irene Barnes is convalescing at her home in San Antonio.

Extension. Mrs. Florence Day has been appointed home adviser in Macon County.

Mary McKee judged 4-H Club exhibits at the state fair in South Dakota.

Gladys Ward is to preside at a round-table discussion of the home safety division at the annual meeting of the National Safety Council in Chicago.

Litchfield. An Achievement Day was held on September 2 at the High School for girls who did summer project work. When possible, the girls displayed the results of their work and each girl discussed the success of her project. Adah Hess, state supervisor of home economics, Sophia Reed, assistant supervisor, Gertrude Bockewite, state club chairman for 1932–1933, and several mothers were guests. Mary Stansifer was in charge of the work.

Peoria. Anna Tjaden, city supervisor of home economics, has recovered from her recent illness and resumed work.

INDIANA

Ball State Teachers College. The house planning and furnishing class received prizes on 6 houses entered in the contest in landscaping sponsored by the Muncie Garden Club.

Mary Beeman studied at the University of Chicago the second summer term.

Among this year's graduates who are teaching are: Dorothy Ayres at Royal Center; Blanche Ricks at Greensboro; Marguerite Wacknitz at Medaryville; Arcille Butler at Huntertown; Gladys Achenback at Liberty Township, Tipton County; Nondice Jackson at Alquina; Charlotte Bragg at McKinley School, Randolph County.

Mrs. Marie P. Ringle, itinerant teacher trainer, assisted Agnes V. Watson, state supervisor of home economics, with the Regional Conference for Vocational

Home Economics Teachers at Huntington in the northeast section of the state on September 16. Dr. H. N. Fitch and Mary Beeman were among the speakers. Mrs. Ringle reports 8 new vocational departments this year.

Approximately 35 freshmen are enrolled in the home economics department this term. Complete redecoration has greatly improved the appearance of the department's quarters.

Indiana State Teachers College. Ann Marold of the University of Minnesota is in charge of the home management house for the fall and winter terms.

Louise Gillium, who has been studying at the University of California, has resumed her work as head of the foods and nutrition department.

Purdue University. A cooperative house to accommodate 12 girls was opened this fall. Each student will be assigned a part of the housekeeping and meal preparation, and duties will be shifted several times during the semester.

Appointments this year include: Mrs. Dorothy Doyle as part-time assistant in home administration and in the office of personnel for women; Naomi McGuire as part-time assistant in home administration and director of the cooperative house; and Georgia Brown as part-time assistant in the nursery school.

The four apprentice teachers in the nursery school are: Miriam Wiggenhorn, Eleanor Marling, Eleanor Sandernson, and Lucile Sandernson.

During the past year the department of applied design sponsored various interesting exhibits. From the American Federation of Art came one of wood blocks by Helen Hyde; one describing processes involved in the making of an etching, engraving, wood block print, and lithograph; and one called "Good Quality at Low Cost" which consisted of hand-blocked textiles, original blockprints, pottery, and rugs. The Lafayette Art Association loaned the department two fine exhibits of block prints by two American artists; and Mr. Shima of New York City, one of Japanese prints. In May a representative from the International Print Company of Detroit exhibited an unusual collection of Haefstengel prints from Germany.

Extension Service. The nutrition exhibit at the Indiana State Fair was designed to show foods that are good body builders and within reach of everyone. It consisted of a large cut-out of two healthy children of preschool and school age and as the centerpiece a turn table supporting a large milk bottle and a week's food supply needed by each child. Actual foods for building flesh, teeth, and bones were also exhibited.

Student Clubs. The Indiana student clubs are planning to support a Chinese scholarship as one of this year's projects. Contributions from each club were received at the State Student Club Conference in October when a Chinese program was planned.

KENTUCKY

Kentucky Home Economics Association. The fall meeting will be held at the Dawson Springs Hotel, Dawson Springs, November 10 and 11. The opening session will be followed by a banquet in the evening, and on Saturday there will be group discussions followed by a luncheon. Interesting speakers are planned for both days.

Last spring the Association appointed a service committee to aid in relief work with Statie Erickson of the University of Kentucky to direct its activities. The committee has already started to function, and it doubtless will be the Association's most important one this year.

Louisville Home Economics Associa-

tion. The first meeting of the year was a social one on September 19. The Association's first scholarship in home economics for an upper classman in the University of Louisville has been awarded to Frances Walker, a senior.

University of Louisville. Oneta Liter, associate professor of home economics, is giving part time to the work of the Kentucky Municipal Relief Organization in Louisville, a type of work in line with the programs of the Kentucky and American Home Economics Associations.

Canning Contest. The Architects and Builders Exhibit is sponsoring a canning contest among Louisville homemakers under the supervision of See Rice, director of the Domestic Arts Guild, a unit of the Architects and Builders Exhibit. The contest is to be judged by Mrs. Zelma K. Jenks of the University of Louisville, and the winning entry is to be sent to Chicago.

MARYLAND

Maryland Home Economics Association. The annual spring meeting was held on May 6 in Washington. The morning was devoted to a tour of the Bureau of Home Economics; a buffet luncheon was served in the Garden House of the Dodge Hotel; and a short business meeting and election of officers followed the luncheon. It was voted that the work of the publicity committee be continued for another year. The following officers were elected for 1933–34: president, Elizabeth P. Shantz, Baltimore; vice-president, Venia Kellar; secretary, Helen Weber, Baltimore; treasurer, Merle Ford.

The fall meeting was held on October 20 in conjunction with that of the Maryland State Teachers Association. Dr. Rennie of the Phipps Clinic of Johns Hopkins Hospital spoke on "Mental Hygiene and Training of the Preschool Child," and Frederick P. Stieff gave a talk on how he came to write "Eat, Drink and Be Merry in Maryland."

State Department of Education. A six-day conference for vocational home economics teachers was held at the University of Maryland the week of July 17. Edna P. Amidon of the Federal Board for Vocational Education was leader, assisted by Edna B. McNaughton, teacher trainer at the University of Maryland, and Elisabeth Amery, state supervisor of home economics education. The objective was to study the organization of units in related science and methods of teaching by the use of problems. The unit on "How the Science of Bacteriology Is Important in Everyday Life" was worked out in detail. During the past year groups of teachers have been studying and organizing certain units on related subjects for the first-year course, and these will be checked and issued during this year. Work will be continued this year on units in related subjects for the second year.

The organization of the home economics work in the county schools will be carried on as in previous years with the program enlarged in several schools. Only one county has reorganized the work into fewer periods per week. Plans are being made for classes to cooperate with relief agencies and to continue emphasis on helping girls meet their home problems.

Baltimore. Several new pre-vocational centers have been opened in Baltimore this fall.

Mrs. Marie Bauernschmidt, secretary of the Public School Association of Baltimore, spoke at the first meeting of the home economics teachers in September.

MASSACHUSETTS

Massachusetts Home Economics Association. The annual meeting was held at the Bancroft Hotel, Worcester, on April 8. President Dorothea Beach presided and Cora Winchell of Teachers College, Columbia University, spoke at the morning session. At the afternoon session Edna L. Skinner, vice-president, presided and a discussion of "The Problems of Readjustment" was led by Alice Haley, president of the New England Home Economics Association. The following officers were elected for 1933–34: president, Edna L. Skinner, Amherst; vice-president, Grace A. Gilky; second vice-president, Hazel A. Ross; secretary, Ruth Gabler, Springfield; treasurer, Sarah Thames.

The fall meeting of the Association was scheduled to be held in the Essex School at Hawthorne on October 21.

Berkshire County Home Economics Association. The October 27 meeting of the Association was held in the Pittsfield High School in conjunction with the annual teachers' convention of Berkshire County.

Connecticut Valley Home Economics Association. The following officers have been elected for the year 1933–34: president, Jennie R. Bear, Holyoke; vice-president, Anna Iverson; treasurer, Mildred Dobbs; and secretary, Mildred Briggs, Amherst.

State Teachers College, Framingham. May Turner, formerly of the Teachers College household arts staff, comes to Framingham this fall to fill the place in the foods department previously held by Ruth Kaiser, who was married August 19.

Viola Munyan, '30, who has been teaching household arts at Westboro, Massachusetts, has been appointed to teach the same subjects in the training school of the Salem State Teachers College. Her place at Westboro will be filled by Frances Metcalf, '32.

State Department of Public Health. Mrs. Bertha Shapley Burke, nutritionist, has worked out an excellent food plan for welfare recipients in Melrose which the State Department of Public Health is printing for use of welfare agencies in the state.

Miss Stuart and Miss Leamy, nutritionists, were pleased to find student dietitians employed in five of the summer camps they visited. In most of the tuberculosis camps they found that even more milk was being used than was actually needed.

MICHIGAN

Michigan Home Economics Association. During October the Association sponsored home economics conferences in connection with each of the six district meetings of the Michigan Education Association and was represented at each by one or more members of its executive board.

Detroit. Marion F. Sawyer, for four years director of home economics for the Kelvinator Sales Corporation, has been appointed director of the Home Economics Institute of the *Detroit Free Press.*

MINNESOTA

The College of St. Catherine, St. Paul. Sister Jeanne d'Arc Hurley received her Ph.D. degree in home economics at the University of Chicago at the end of the summer session. She again joined the staff at the College in September.

MISSISSIPPI

Mississippi Home Economics Association. President Elaine Massey has arranged to have the program objectives of standing committees published in

the first news-letter. She and May Haddon, councilor, were the Association's official representatives at the Milwaukee meeting

Mississippi State College for Women. Mary Wilson, professor of home economics, attended the A. H. E. A. meeting in Milwaukee; and she and Bertha Hays, nursery school director, attended that of the home economics section of the N. E. A. in Chicago.

Ella Siddall of the nutrition department studied at Pennsylvania State College this summer.

Mississippi State College. Dorothy Dickins, in charge of home economics research, has returned from a year of study at the University of Chicago.

Extension Service. May Creswell, state home demonstration agent, reports that the regular and special home demonstration agents, in cooperation with the Reconstruction Finance Corporation canning program, held 1,324 demonstrations of plain canning and reached every county in the state.

State Teachers College. Evelyn Martin, who has been assistant nursery school director at the University of Tennessee, is the nursery school director.

Bertha Fritzsche, itinerant teacher trainer, spent the summer studying at Columbia University.

Vocational Education. A training course in teaching adult classes in home economics was carried on at State Teachers College under the direction of Loyette Webb, professor of home economics. She was assisted by Mary Wilson and Lelia Massey of Mississippi State College for Women and V. G. Martin, I. W. Duggan, and S. S. Greene of the agricultural education staff. Twenty home economics teachers were enrolled and organized and taught adult classes in home economics which had a total enrollment of about 250 women.

The state supervisor, M. Esther Rogers, studied at Columbia University this summer.

Better Homes. Mrs. Ellen S. Woodward, Better Homes chairman and executive secretary of the Mississippi State Board of Development, has gone to Washington as assistant emergency relief administrator in charge of the division of women's interests.

MONTANA

Montana Home Economics Association. *Student Clubs.* Esther Bowman, state student home economics club chairman, reports the following plans for this year: The state program will emphasize student activity; home economics club programs will be developed along four lines—educational, recreational, philanthropic, and social; a state contest to find a suitable name for the state home economics club organization will be conducted; the fall news-letter of the Montana Home Economics Association will be devoted to student club work; and plans will be made to have student club representatives attend the state scholarship week to be held as usual at Montana State College.

Extension Service. Madge Reese and Mary Rokahr of the U. S. Department of Agriculture conferred with the Montana home demonstration staff at Montana State College in late August and early September. Major attention was given to present-day economics and its application to home economics.

On September 1, Oona Stautz, formerly home management specialist in Michigan, succeeded Mrs. Nora Hulbush Chalkley as extension economist in home management; and Gwendolyn Watts, formerly home demonstration agent in Minnesota, succeeded Mrs. Frances Bellamy Baker as home demonstration agent in Dawson and McCone counties.

OUR CONTRIBUTORS

Abby L. Marlatt, director of courses in home economics at the University of Wisconsin, needs no introduction to home economists. Her last contribution to the JOURNAL was in the May 1931 issue.

Frances L. Swain, known to all home economists as a former president of the A. H. E. A., is director of household arts in the Chicago Public Schools.

Dr. Greta Gray was co-author of the article on current consumption of electric refrigerators in the June-July issue, and **Mrs. Zepha Rechs** and **Mrs. Gertrude Server** were senior students in her department at the University of California, Los Angeles, when the work reported in this issue was done.

Luella A. Williams is principal of the Greenview (Illinois) High School, where she also teaches home economics and biology. She is a graduate of the Illinois State Normal University. **Blanche M. Stover,** a Russell Sage College graduate, teaches homemaking at the Cherry Valley (New York) Central School. **Albertina Bechmann's** experience as teacher and principal in Ohio public schools extended over nearly a fifty-year period before her retirement in June, 1931.

J. L. Hypes, head of the sociology department and director of sociological research at Connecticut State College, has a varied background of study and teaching experience in biology and education as well as sociology and holds a Ph.D. degree from Teachers College, Columbia University.

Gladys J. Ward, whose last contribution to the JOURNAL appeared in July, 1932, is associate in home management at the University of Illinois.

Beatrice Anderson has been teaching home economics in the high school at Barnesville, Minnesota, since she was graduated from the University of Minnesota in 1931.

Elizabeth Winkelhake, a graduate of the University of Missouri, has taught vocational home economics for three years at Esther, Missouri, a small mining town now impoverished by partial closing of the mines.

Anna G. Green has been supervisor of home economics education in Pennsylvania since 1917.

Cleo Fitzsimmons has been extension specialist in junior club work at the University of Illinois for the past two years. After graduation from Iowa State College she assisted in Purnell research there and for two years was home adviser in Kane County, Illinois.

Roscommon Pat is the pen name of a writer born in New York City who trained for the ministry but never preached. The "Oirish letther," he states, is in a new field of writing for him.

Pauline Beery Mack is a past chairman of the A. H. E. A. textile and clothing division's committee on standardization and is now a member of the Association's committee on standardization of consumers' goods. **Polly Belle Kessinger, Elsa Irene Ottinger,** and **Mary Elizabeth Deck** are Dr. Mack's students.